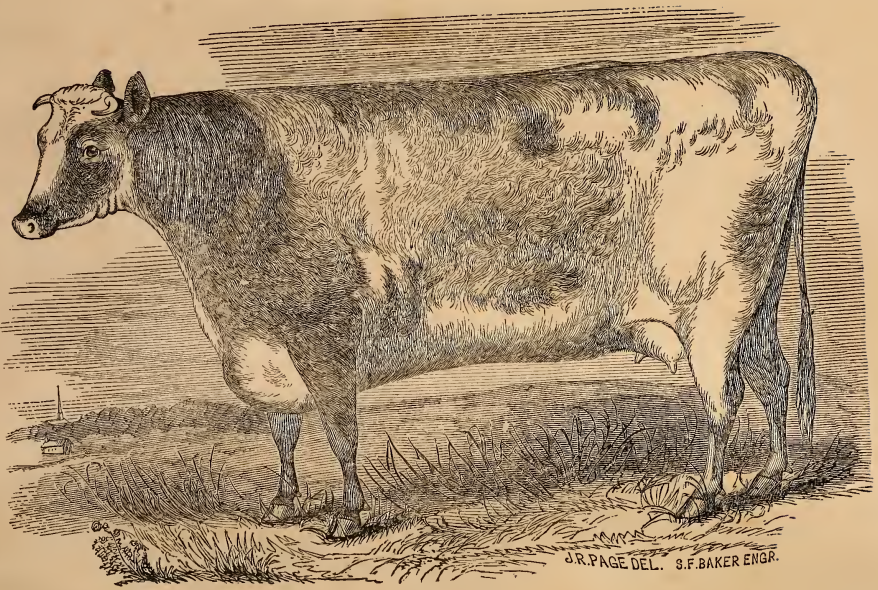
Francis, S. III

Digitized by the Internet Archive
in 2011 with funding from
The Institute of Museum and Library Services through an Indiana State Library LSTA Grant

http://www.archive.org/details/transactionsofil00illi



TULIP.

Light Roan. Bred by and property of JAMES N. BROWN, Grove Park, Berlin, Sangamon county, Illinois. Calved Aug. 12, 1851. Got by Renick, 903, out of Beauty, by imported Don John, 426; Caroline 2d, by Goldfinch (3909); Caroline, by Gold- [illegible] (2066); Milkmaid, by Oliver (2387); Spot, by Mohawk (4492); ——, by San Martin (2599); ——, by Paul Jones (4661); [illegible] at the Peoria fair, as the best Cow, in the sweepstakes.

[Face title.

TRANSACTIONS

OF THE

ILLINOIS STATE

AGRICULTURAL SOCIETY,

WITH NOTICES AND

PROCEEDINGS OF COUNTY SOCIETIES,

AND

KINDRED ASSOCIATIONS.

S. Francis, Corresponding Secretary, Editor.

VOLUME III.—1857-'58.

SPRINGFIELD:
BAILHACHE & BAKER, PRINTERS.

1859.

Resolved by the House of Representatives, the Senate concurring herein, That the State Printer be and he is hereby directed to print three thousand copies of the Transactions of the State Agricultural Society.

WM. R. MORRISON,
Speaker of the House of Representatives.

JOHN WOOD,
Speaker of the Senate.

APPROVED Feb. 24, 1859.
WM. H. BISSELL.

PREFACE.

In presenting to the farmers of Illinois the third volume of Transactions of the Illinois State Agricultural Society, it is with entire confidence that its contents render it a worthy associate of the two volumes which have preceded it.

We shall be indulged with a brief glance at these contents. They embrace the proceedings of our State Agricultural Society for the years 1857 and 1858; the proceedings of the Executive Committee, for the same period of time; the proceedings of numerous County Agricultural Societies, with the names of officers of Societies reported; the proceedings of our State Horticultural Society; of our Southern Illinois Pomological and Horticultural Society; of the North Western Fruit Growers' Association; of the Sugar Cane Growers' Convention; of the State Natural History Society; and of the Illinois Stock Importing Association. Connected with these proceedings are valuable discussions, reports and essays upon agricultural and other kindred subjects, embracing a vast amount of valuable information. Associated as is the State Normal School with the interests of agriculture, the paper from the President of that Institution is deemed important.

The thanks of the Society are due to the authors of the essays contained in this work; to others who have contributed to make up its contents, and especially to M. S. Bebb, of Marion county, and to Dr. Frederick Brendel, M. D., of Peoria county, for their valuable contributions.

The work has been printed by Messrs. Bailhache & Baker, State Printers, and its appearance is their best commendation.

Necessary absence at times, during the progress of printing, will be my apology for some few obvious and immaterial errors of names and dates.

S. FRANCIS.

Springfield, *July* 25, 1859.

ILLINOIS STATE AGRICULTURAL SOCIETY.

OFFICERS FOR 1857–'58.

PRESIDENT:

CYRUS W. WEBSTER, Salem, Marion county.

VICE-PRESIDENTS:

1st District—H. Capron,.....Alden, McHenry county.
2d " L. Ellsworth,.....Naperville, Du Page county.
3d " J. E. McClun,.....Bloomington, McLean county.
4th " J. H. Stipp,.....Canton, Fulton county.
5th " J. W. Singleton,.....Quincy, Adams county.
6th " A. B. McConnell,.....Springfield, Sangamon county.
7th " Wm. Kile,.....Paris, Edgar county.
8th " S. A. Buckmaster,.....Alton, Madison county.
9th " H. S. Osbourn,.....Pinkneyville, Perry county.

EX-PRESIDENTS:

J. N. Brown,.....Berlin, Sangamon county.
H. C. Johns,.....Decatur, Macon county.

S. Francis, Corresponding Secretary.....Springfield, Sangamon county.
Phil. Warren, Recording Secretary.....Jacksonville, Morgan county.
John Williams, Treasurer.....Springfield, Sangamon county.

OFFICERS FOR 1859–'60.

PRESIDENT:

L. ELLSWORTH, Naperville, DuPage County.

VICE-PRESIDENTS:

1st District—C. B. Denio,.....Galena, Jo Daviess county.
2d " Wm. H. Van Epps,.....Dixon, Lee county.
3d " John Girard,.....Georgetown, Vermilion county.
4th " A. Dunlap,.....Peoria, Peoria county.
5th " J. W. Singleton,.....Quincy, Adams county.
6th " S. Dunlap,.....Jacksonville, Morgan county.
7th " Wm. Kile,.....Paris, Edgar county.
8th " S. B. Chandler,.....Belleville, St. Clair county.
9th " H. S. Osbourn,.....Pinkneyville, Perry county.

EX-PRESIDENTS:

J. N. Brown,.....Berlin, Sangamon county.
H. C. Johns,.....Decatur, Macon county.
C. W. Webster,.....Salem, Marion county.

S. Francis, Corresponding Secretary.....Springfield, Sangamon county.
John Cook, Recording Secretary.....Springfield, Sangamon county.
J. W. Bunn, Treasurer.....Springfield, Sangamon county.

ILLINOIS STATE HORTICULTURAL SOCIETY.

OFFICERS FOR 1859–'60.

PRESIDENT:

C. R. OVERMAN, Bloomington, McLean county.

VICE-PRESIDENTS:

1st	District—	R. DOUGLAS,	Waukegan, Lake county.
2d	"	A. R. WHITNEY,	Franklin Grove, Lee county.
3d	"	M. L. DUNLAP,	West Urbana, Champaign county.
4th	"	LLOYD SHAW,	Tremont, Tazewell county.
5th	"	K. K. JONES,	Quincy, Adams county.
6th	"	JONA. HUGGINS,	Woodburn, Maconpin county.
7th	"	URI MANLY,	Marshal, Clark county.
8th	"	JAS. HUNTER,	Ashley, Washington county.
9th	"	WM. YATES,	Tamaroa, Perry county.

O. B. GALUSHA, Corresponding Secretary.....Lisbon, Kendall county.
S. EDWARDS, Recording Secretary.....La Moille, Bureau county.
F. STARR, Assistant Recording Secretary.....Alton, Madison county.
A. BRYANT, Treasurer.....Princeton, Bureau county.

SOUTHERN ILLINOIS POMOLOGICAL AND HORTICULTURAL SOCIETY.

OFFICERS FOR 1859.

PRESIDENT:

B. G. ROOTS, Tamaroa, Perry county.

VICE-PRESIDENTS:

WM. S. WAIT,.....Greenville, Bond county.
URIAL MILLS,.....Salem, Marion county.
WM. S. BAINBRIDGE,.....Jonesboro, Union county.
WRIGHT CASEY,.....Mount Vernon, Jefferson county.
WM. YATES,.....Tamaroa, Perry county.

N. D. INGRAHAM, Corresponding Secretary.....Centralia, Marion county.
J. M. HUNTER, Recording Secretary.....Ashley, Washington county.
J. P. REYNOLDS, Treasurer.....Odin, Marion county.

CONSTITUTION OF THE ILLINOIS STATE AGRICULTURAL SOCIETY.

The style of this Society shall be "THE ILLINOIS STATE AGRICULTURAL SOCIETY" Its objects shall be the promotion of Agriculture, Horticulture, Manufactures, Mechanics and Household Arts.

SECTION 1. The Society shall consist of such citizens of the State as shall signify, by writing, their wishes to become members, and shall pay, on subscribing, not less than one dollar, and one dollar annually thereafter; also, of honorary and corresponding members. The President of County or other Agricultural Societies in this State, or a delegate from each, shall, *ex officio*, be members of this Society.

SEC. 2. The officers of this Society shall consist of a President, nine Vice-Presidents—one to be located in each congressional district—a Recording Secretary, a Corresponding Secretary, a Treasurer, an Executive Committee—to consist of the officers above named and the ex-Presidents of the Society—and a General Committee, one of the members of which shall be located in each of the counties of the State.

SEC. 3. The Recording Secretary shall keep the minutes of the Society. The Corresponding Secretary shall carry on the correspondence with other Societies, with individuals, and with the General Committee, in the furtherance of the objects of the Society.

SEC. 4. The Treasurer shall keep the funds of the Society, and disburse them on the order of the President or the Executive Committee, countersigned by the Recording Secretary, and shall make their report of receipts and expenditures at the biennial meeting.

SEC. 5. The Executive Committee shall take charge of and distribute and preserve all seeds, plants, books, models, &c., which may be transmitted to the Society, and shall have, also, the charge of all communications designed or calculated for publication, and, so far as they may deem expedient, shall collect, arrange and publish the same in such manner and form as they shall deem best calculated to promote the objects of this Society.

SEC. 6. The General Committee are charged with the interests of the Society in the counties in which they shall respectively reside, and will constitute a medium of communication between the Executive Committee and the remote members of the Society.

SEC. 7.* The election of officers of this Society shall be biennially, on the Fair Grounds of the Society, at the door of the office of the Recording Secretary, at two o'clock P. M., on the third day of the fair, by delegates of the legally organized Societies (Agricultural) of this State. Each of said Societies shall be entitled to three delegates, and no more. The Presidents of the said County Agricultural Societies shall be, *ex officio*, one of the said delegates. The said officers elect of the State Agricultural Society, shall enter upon the duties of their respective offices on the second Monday of January following their election. All vacancies which may occur in the offices of said Society shall be filled by the Executive Board. Extra meetings may be convened by the Executive Committee. Nine members shall be a quorum for the transaction of business.

SEC. 8. The Society shall hold an Annual Cattle Show and Fair at such time and place as shall be designated by the Executive Committee.

SEC. 9. This Constitution may be amended by a vote of two-thirds of the members attending any biennial meeting.

JANUARY 3, 1855.

At the biennial meeting of the Society, the following amendment was made to the Constitution:

"That in all elections for officers of this Society, when there is but one person put in nomination, the election may be had *viva voce*."

JANUARY 6, 1857.

At the biennial meeting of the Society, the Constitution was so amended as to provide that all officers be elected *viva voce*."

---

*NOTE.—This section was adopted to take the place of the following, at the biennial meeting, 5th January, 1859:

SEC. 7. There shall be a biennial meeting of the Society on the third day of the session of the Legislature, in the city of Springfield; at which time all the officers shall be elected by majority, and by ballot, with the exception of the General Committee for the counties, which may be appointed by the Executive Committee, who shall have power to fill any vacancies which may occur in the offices of the Society during the interval.

TABLE OF CONTENTS.

State Agricultural Society, proceedings..... 17, 24
Biennial Report of Executive Committee..... 9
Catalogue of Plants to be added to Mr. Lapham's List of Illinois Grasses: by Frederick Brendel, M. D. ... 583
" of Plants to be added to same by M. S. Bebb..... 586
" of Trees and Shrubs of Illinois: by Dr. Brendel... 588
" of the Oaks of Illinois: by Dr. Brendel 605
Circular letter..... 66
County societies..... 179
Committee, general, of the State..... 22
Discussion at the Agricultural Meeting on the Fair Grounds at Centralia..... 110
Essay on the various breeds of stock, and their adaptation to the prairies..... 457
" on Raising Horses and Mules in Illinois..... 463
" on the Embellishment of a Country Home..... 466
" " " " " " 472
" on the Culture of Forest and Ornamental Trees on the Prairies..... 475
" on the Cultivation of Fruit Trees on the Prairies..... 487
" on the Cultivation of Orchards..... 495
" on Practical Gardening in Illinois..... 501
" on the Prairie Fruit Garden..... 512
" on Sorgho and Imphee Sugar Cane..... 518
" on the Culture of Rice in Illinois..... 527
" on Domestic Fowls, their rearing and management... 532
" on Agriculture—The Anglo-Saxon..... 544
" on Agriculture, as connected with Schools..... 556
" on Agricultural Colleges in Illinois..... 564
" on Self-Education..... 570
" on the District School-House..... 577

Exhibition of Steam Plow..... 99
Meteorological observations, 1857 and 1858: Dr. Frederick Brendel..... 633
Nurseries of Illinois..... 370
Normal University..... 399
Proceedings of the Executive Committee..... 18, 68, 97, 99
" of the Illinois Stock Importing Association..... 302
" of the Illinois Sugar Cane Convention..... 305
" of the State Horticultural Society..... 310
" of the Pomological and Horticultural Society of Southern Illinois..... 378
" of the N. W. Pomological Association..... 378
" of the State Natural History Society..... 637
Premiums awarded, 1857..... 26
" " 1858..... 78
Reports of committees, 1857..... 44
" " 1858..... 94
Soils of Kentucky and Illinois..... 403
Statements of field crops, 1857..... 61
" " " 1858..... 103

EMBELLISHMENTS:

Tulip, (premium cow,)..... Frontispiece.
Bracelet, " ..... Page 77
Lady Francis, " ..... " 274
Rachel, 2d, " ..... " 95
Renick, 2d, " ..... " 27
Empress, " ..... " 153
Caroline, 2d, " ..... " 167
Transit, (Spanish Merino buck,)..... " 81
Fawkes' Steam Plow, ... " 99
Lindley's Seed Sower,..... " 105
Rugg's Reaper and Mower, ... " 32
Brown's Corn Planter, ... " 244
Kuhn & Co.'s Grain Drill,..... " 84
Joice's Corn and Cob Mill, ... " 33
State Normal University, Bloomington, ... " 398
Wilson's Seedling Strawberry, ... " 380
Oaks of Illinois,..... " 605

TRANSACTIONS.

REPORT OF THE EXECUTIVE COMMITTEE.

To the Governor and General Assembly
of the State of Illinois:

The Executive Committee of the Illinois State Agricultural Society beg leave to report the acts and doings of the Society for the years 1857 and 1858.

The appropriation by the General Assembly, at their session in 1857, of three thousand dollars a year, to be used in premiums, has enabled the Society, with the addition of its ordinary means, to hold two successful fairs—the first at Peoria in 1857, and the last at Centralia in 1858. The Society was also enabled to hold a trial of reapers and mowers at Salem, in July, 1857, and also a trial for steam plows at Decatur, in November, 1858. The Society was also greatly aided in accomplishing these objects by the liberality of the various railroad companies of our State.

FIFTH ANNUAL FAIR.

The Fair of 1857 was held at Peoria, on the 21st, 22d, 23d, 24th and 25th days of September. H. J. Chase, President of the Peoria County Agricultural Society, and other public-spirited citizens of that city and county, to wit: Smith Frye, Chauncey Wood and W. Commington, Esq's, entered into obligations with this Society to furnish the grounds and fixtures necessary for the State Fair. This was done in the most ample and satisfactory manner. Twenty-one acres of ground belonging to the County Agricultural Society, within the limits of the city, were inclosed, stalls constructed, and buildings erected, highly satisfactory to the officers of the Society, and to the large number of people who attended the exhibition. The halls, indeed, were of superior order in taste and construction—designed ultimately for the permanent fixtures of the County Agricultural Society. The excel-

lence of these fixtures may be judged from their cost, which was upward of thirteen thousand dollars.

The entries at the Peoria Fair exceeded those of any preceding Fair. These entries amounted to nineteen hundred and seventy-eight. In detail they were as follows:

Class A—Cattle	174	Class I—Worked Metals, &c	88
Class B—Horses, &c	473	Class K—Painting, &c	65
Class C—Sheep	109	Class L—Needle-Work, &c	267
Class D—Swine	14	Class M—Natural History, &c	17
Class E—Poultry	29	Class N—Miscellaneous Articles	276
Class F—Agricultural Implements	147	Class O—Plowing Match	13
Class G—Farm Products	147		
Class H—Fruits, Flowers, &c	199	Total	1978

An arrangement was made with the officers of the State Horticultural Society to hold their exhibition in connection with that of the State Agricultural Society. Dr. E. S. Hull, President of the Horticultural Society, in connection with Vice-President Ellsworth, took charge of the Horticultural Department. Under their control, the union of the two Societies in that department, rendered it one of the distinguishing features of the Fair. A report of the officers of that Society will be found among the papers herewith submitted.

The railroad companies of Illinois, without exception—the Mississippi and Missouri Railroad Company, of Iowa—the St. Paul, Fon du Lac and Chicago, and Milwaukie and Chicago Railroad Companies, of Wisconsin—in the most liberal manner carried stock and other articles for exhibition to the Fair, returning the same free of charge, and also passed passengers at half the usual prices to and from the Fair. This was done in the most satisfactory manner, and contributed most essentially to the success of the Fair.

The weather was fine, the appearance of the grounds beautiful, and there was a gratifying assemblage of people present from the counties in the neighborhood of Peoria, and a fair representation from every portion of the State.

SIXTH ANNUAL FAIR.

The Sixth Annual State Fair was held at Centralia, on the 14th, 15th, 16th and 17th days of September, 1858. The Executive Committee, in considering the question of location for the sixth Fair, very generally concluded that the Fair was due to the south part of the State; and to determine on its location in that section, they only awaited evidence, that proper conveniences for the exhibition of stock and other articles, and boarding and lodging arrangements for the people who might desire to attend, could be secured. R. D. Noleman, A. K. Corey, J. M. Hawley, L. P. Tufts, Thos. J. Evans, N. D. Ingraham and A. J. Pearcy, Esqs., of Centralia, came forward and gave adequate guarantees that they would fill all the requirements of the Executive Committee. These gentlemen proceeded to carry out their engagements, and

on the week previous to the time fixed on for the Fair, had all the fixtures required completed. They had also made arrangements for boarding and lodging in the towns near, and in buildings expressly prepared for the purpose on and near the grounds, for all persons who should be present at the Fair. And it may be here very properly stated, that the arrangements for boarding and lodging at the Centralia Fair, gave general satisfaction.

The Executive Committee had confidence that the Fair to be held at Centralia, if it should not equal other State Fairs in the amount of articles exhibited, and in the number of persons in attendance, would be productive of great good. We now believe that such will be the result. There was a large attendance of the farmers of the south; every county, it is believed, was well represented at the Fair. A State Fair had not hitherto been held in Southern Illinois, and the fairs in other sections had not generally learned the people to bring out the choice productions of the field, the shop and the mines; but there was a very respectable display in the various departments from the south, and which would, on another similar occasion, be largely increased. The people of the north and south met together at Centralia in harmonious action, and they separated in kindness, under the full conviction that State Fairs have a powerful influence in promoting the great interests of agriculture.

The liberality of the Central Railroad Company, in connection with this Fair, is without precedent. The Company contributed money and transportion for getting up the fixtures on the grounds. A large part of the stock and other articles exhibited were brought upon the Central Railroad, free of charge. The Ohio and Mississippi Railroad Company also donated money, and did much transportation, for the benefit of the Fair. More was required of these roads, from their localities, than of others; and their superintendents and other officers readily performed all that was asked of them by the Executive Committee. The other railroad companies of the State, with a single exception, transported articles for exhibition at the Fair, and passengers to and from the Fair, on the same terms as in the previous years. While it is certain that our State Fairs cannot be successful without these railroad facilities, it is also believed to be true that the railroad companies do not suffer by their liberality in this matter. We are led to this belief by the statement of Mr. Clarke, the Superintendent of the Central Railroad, who expressed the belief that the road was not a loser by its liberality, as connected with the State Fair.

The entries at the State Fair at Centralia were seventeen hundred and eighty-eight. It will be seen, by comparing this statement of entries with those of the previous year at Peoria, that there was a falling off of one hundred and ninety entries. This was less than was anticipated. The season and the locality of the Fair were against the exhibition of many articles; and, under all the circumstances presented, the Executive Committee were well

satisfied. Such an exhibition of fine Durham stock is believed never to have been seen before in one inclosure in this State, if out of it. Agricultural implements and machinery were present in large numbers. The plow was there in great variety, and in perfection unequaled. The steam plow of J. W. Fawkes, which was present, giving evidence that steam can be used in plowing and other important farming operations—with further improvements likely to be adopted—was one of the distinguishing features of this Fair.

TRIAL OF REAPERS AND MOWERS.

There was held a trial of reapers and mowers, under the supervision of the Executive Committee, at Salem, on the 8th and 9th days of July, 1857—the Executive committee acting as the awarding committee. There were five reaping machines on trial. The first premium of $100 was awarded to the machine of G. H. Rugg, of Ottawa; and the second premium of $75, to the machine of Buckmaster & Wise, of Alton. There were four machines exhibited for mowing. The first premium was awarded to Buckmaster & Wise, of Alton, on their combined reaping and mowing machine; and the second premium of $75, to Haines, Hawley & Co., of Pekin, on their mowing machine.

TRIAL OF STEAM PLOWS.

J. W. Fawkes, who had exhibited a steam plow at the Centralia Fair, asked for another trial of his machine. Understanding from several sources that other inventors desired to make a trial of their steam plowing machines in Illinois, the 10th of November, 1858, was fixed upon as the time, and Decatur as the place, for such trial. The unusual wet season operated against the trial. But a single machine, that of Mr. Fawkes, was present. Its performances were such that the committee—while they felt that they would not be justified in awarding the premium which they had offered for a machine for general farm purposes, in which opinion Mr. Fawkes concurred—made a donation to the pioneer in steam plowing in Illinois, of five hundred dollars.

EDUCATION—THE STATE NORMAL SCHOOL.

From the peculiar organization of the State Normal School, the industrial classes of this State have a deep interest in its success. The statement of its Principal, Mr. C. E. Hovey, presented with this report, must give general satisfaction.

ENDOWMENT OF AGRICULTURAL COLLEGES.

The movement in behalf of the establishment of agricultural colleges in the different States, by obtaining from Congress for the endowment of such institutions, public lands or their equivalent, was so far successful at their last session, that a bill for the purpose

passed the House of Representatives, but was left among the unfinished business of the Senate. We trust that at the present session the bill will become a law. Agricultural schools and colleges in many European countries have been found to be productive of great good, and measures have been adopted in several of our States for the establishment of such institutions. Illinois, the first of the States which made a movement in this direction, is yet without an institution specially devoted to the education of the industrial classes.

COUNTY AGRICULTURAL SOCIETIES.

We have in this State ninety-two County Agricultural Societies, recognized by law. The appropriation of one hundred dollars to each legally organized County Agricultural Society, annually, for the last two years, has served as a great stimulus in increasing the number of county societies, and in rendering them useful. Many societies, at this time, have annual fairs, which are not far behind our first State Fair in interest, in the number of entries, and in their receipts. Wherever these societies flourish we are sure that farmers are progressing in improvements and agricultural knowledge. Many county societies which commenced with small beginnings are now large, have beautiful fair grounds, and are in a very flourishing condition. We have endeavored to obtain returns of the proceedings of all these societies, some of which have been furnished, and to which we invite attention.

LAWS FOR PROTECTION OF AGRICULTURAL SOCIETIES.

These laws, enacted at the last session of the General Assembly, have been found eminently useful. The State and County Agricultural Societies, under the protection of these laws, have been able to prevent the sale of spirituous liquors and the getting up establishments of different kinds, which before had been great hindrances to the successful management of fairs. Within the last two years our fairs have been quiet, and visitors have not been disturbed by such scenes as were formerly witnessed on such occasions.

AGRICULTURAL TRANSACTIONS.

The Executive Committee, in accordance with their previous practice, have reserved from distribution a sufficient number of the second volume to supply the members of the General Assembly each with a copy. When this is done, but few copies will remain within the control of the Society. Of the 8,000 volumes of Transactions printed in 1857, by direction of the General Assembly, nearly all are in the hands of the people. That they were wanted by the people, and are highly valued by them, is evidenced by their anxiety to obtain them. The materials reported for the third volume of Transactions are of exceeding interest. A list of the same is presented at the close of this report.

TREASURER'S REPORT.

JOHN WILLIAMS, *Treasurer,*
In account with the Illinois State Agricultural Society.

Jan. 7, 1857.	To balance in Treasury	$ 3,320 91
	To amount received from Members	339 00
	To cash for entries on Reapers and Mowers	175 00
	To cash from the State of Illinois	3,000 00
1858.	To cash received at State Fair at Peoria	12,363 91
	To cash received from the State	3,000 00
Jan. 5, 1859.	To cash received at Centralia	6,874 75
	To cash received of Smith Frye	10 00
1859.	Total	$29,083 57
Jan. 5, 1859.	To balance on hand this day	$1,203 49

	By paid premiums in 1857	$8,104 54
	By paid premiums in 1858	6,306 20
	By paid sundry expenses in 1857	6,542 85
	By paid sundry expenses in 1858	6,926 49
Jan. 5, 1859.	By balance	1,203 49
	Total	$29,083 57

1857.	Total receipts	$15,877 91	1857.	Total exp'res	$14,647 39
1858.	Total receipts	9,884 75	1858.	Total exp'res	13,232 69
		$29,083 57			$27,880 08

All of which is respectfully submitted.

JOHN WILLIAMS.

All of which is respectfully submitted:

S. FRANCIS,
Cor. Sec. Ill. State Ag. Society.

LIST OF MATTER

DESIGNED FOR THE THIRD VOLUME OF TRANSACTIONS.

Biennial Report to the Governor and General Assembly.
Proceedings of the State Agricultural Society for 1857.
Proceedings of the State Agricultural Society for 1858.
Reports from County Agricultural Societies for 1857 and 1858.
Proceedings of the Illinois Stock Importing Association for 1857.
Soils of Illinois: Statements, etc., from J. G. Norwood, late State Geologist.
Proceedings of the Illinois Sugar Cane Convention, 1857.
Proceedings of the State Horticultural Society, 1857 and 1858.
Proceedings of the North-Western Pomological Association, for 1857.

ESSAYS.

On the "Embellishments of a Country Home:" By Frances E. Willard, Wisconsin.
On the "Embellishments of a Country Home:" By Mrs. R. B. Hatch, Pope county, Ill.
On the "Cultivation of Forest and Ornamental Trees on the Prairies:" By O. Ordway, Marshall county, Illinois.
On the "Rearing and Breeding of Horses:" By Phil. Warren, Sangamon county, Ill.
On the "Advantages of Southern Illinois for Settlement:" By E. R. Roe, McLean county.
On "Self-Education:" By J. C. Powers, Peoria.
On the "Raising of Sheep and their Adaptation to the Prairies:" By A. B. McConnell, Sangamon county, Illinois.
On the "Cultivation of Orchards:" By C. R. Overman, McLean county.
On "Agriculture, as connected with Common Schools:" By Miss L. A. Platte, Kankakee county.
On "Practical Gardening in Illinois:" By S. Francis, Sangamon county.
On "Rearing Domestic Fowls:" By C. N. Bement, New York.
On "Practical Farming in Illinois, as connected with the Culture of Upland Rice:" By J. Russell, Bluffdale, Illinois.
On the "Fruit Garden:" By Samuel Jacob Wallace, Hancock county.
On the "Cultivation of Sugar Cane:" By J. A. Hedges, Cincinnati.
On "Agriculture, as connected with Schools and Colleges:" By Thomas M. Gore, Dixon.
Discussions in the Agricultural Meetings at Centralia, 1858: Reported by C. D. Bragdon, Cook county.
Meteorological Observations for 1857 and 1858: By Frederick Brendell, M.D., Peoria.
Amendments to Mr. Lapham's List of Illinois Grapes: By same.
Ligneous Plants of Illinois, especially Forest Trees, with Drawings: By same.

MEETING OF THE STATE SOCIETY.

SPRINGFIELD, *January* 7, 1857.

The Illinois State Agricultural Society met in the capitol, and the President, Hon. H. C. Johns, took the chair at seven o'clock in the evening. Three hundred and thirty-nine persons had their names enrolled as members of the Society.

After propositions had been submitted for going into the elections of officers for the ensuing two years, a motion was made to amend the constitution, so that the officers should be elected by *viva voce*, instead of election by ballot.

The yeas and nays were called and the constitution was amended as proposed.

After some further proceedings the Society adjourned their meeting until next evening at seven o'clock.

January 8, 1857—*seven o'clock.*

The Illinois State Agricultural Society met pursuant to adjournment.

Mr. Mills, of Marion, moved to reconsider the vote of last evening, changing the provision of the constitution, which provided that the officers shall be elected by a *viva voce* vote.

Upon the vote being taken the motion was lost.

Mr. C. G. Taylor moved that a committee of one from each congressional district be appointed to make nominations for officers of the Society; which motion was laid on the table.

The Society then proceeded to elect their officers for the two years ensuing.

Hon. Stinson H. Anderson, of Jefferson county, was nominated for President; Lewis H. Ellsworth, of Du Page county; William Reddick, of La Salle county, and Cyrus W. Webster, of Marion county, were nominated for the same office.

Mr. Ellsworth declined the nomination, and Mr. Reddick was withdrawn.

The roll of members was called, the members voting as their names were read, when it appeared that Cyrus W. Webster was elected president.

The following officers were then elected by acclamation:

Simeon Francis, of Sangamon county, Corresponding Secretary.
John Williams, of Sangamon county, Treasurer.
Phil. Warren, of Morgan county, Recording Secretary.
The following named gentlemen were elected Vice Presidents:

1st district, H. Capron, of McHenry county.
2d " Lewis Ellsworth, of Du Page county.
3d " J. E. McClun, of McLean county.
4th " J. H. Stipp, of Fulton county.
5th " J. W. Singleton, of Adams county.
6th " Andrew B. McConnell, of Sangamon county.
7th " William Kile, of Edgar county.
8th " S. A. Buckmaster, of Madison county.
9th " Hawkins S. Osborn, of Perry county.

The Society then adjourned.

S. FRANCIS, *Rec. Secretary.*

MEETING OF THE EXECUTIVE COMMITTEE.

SPRINGFIELD, *January* 9, 1857.

Present—C. W. Webster, President; Messrs. Ellsworth, Kile and Buckmaster, Vice-Presidents; Simeon Francis, Corresponding Secretary; John Williams, Treasurer; and Phil. Warren, Recording Secretary.

On motion of Mr. Francis,

Resolved, That the Board desire to express the opinion, that whereas, the late Corresponding Secretary has proceeded very far in the collection of papers, and their arrangement for the second volume of the Transactions of the Illinois State Agricultural Society, he be requested to complete the preparation of the same, after which he can transmit the same to the present Corresponding Secretary for publication; and in the opinion of the Board, the Corresponding Secretary who commences the preparation of a volume of the Society's Transactions ought to be employed to complete it.

Resolved, That this Board, in parting with the Hon. H. C. Johns as President of the State Agricultural Society, are deeply sensible of their indebtedness to him for his faithful, arduous and untiring services in behalf of the agricultural interests of this State, and of this Society, for the past two years.

Resolved, That we part with Dr. Kennicott, in his official capacity as Corresponding Secretary of this Society, with a realizing sense of his arduous and valuable services to the Society, and to the State, and express the ardent hope that health will soon be restored to him, and that the public will realize for many years the benefit of his efforts for the promotion of the agricultural and horticultural interests of the State.

Resolved, That our best wishes attend the retiring members of the last Board. They have performed their duties well, and deserve the thanks and kind regards of the people of Illinois.

On motion, the Corresponding Secretary was authorized to procure a suitable writing desk, and to pay for the same.

On motion of Mr. Buckmaster, the following resolution was adopted:

Resolved, That the Corresponding Secretary furnish to each Vice-President and the President, a copy of the Premium List of 1856, and that each of them examine the said list, and report immediately upon the same at the next adjourned meeting of the Board, with the view of perfecting the Premium List for the present year; and that the Corresponding Secretary procure a copy of the articles entered in the Miscellaneous Department of 1856, and a copy be sent to the President and each Vice-President, with the object of introducing the proper articles under the proper heads in the Premium List for 1857.

On motion of Mr. Williams,

Resolved, That the sum of ten thousand dollars be expended in the purchase of suitable premiums for the Fair of 1857.

Resolved, That the Fair Grounds, wherever located, shall embrace not less than twenty acres, all to be inclosed with a close board fence, not less than seven feet high, the boards running horizontally; one hundred and fifty close stalls, eight by twelve feet; three hundred open stalls, eight by twelve feet; all stalls to be covered; one hundred tight pens for sheep and swine, eight by ten feet, four feet high, boards horizontal; fifty of these pens to be covered with loose boards; and sufficient accommodation for poultry; the fence making one end of all the above fixtures; one show shed, forty by one hundred feet, arranged for the exhibition of fruit; two show sheds for the exhibition of manufactured articles of art,

skill, models; one show shed for the exhibition of musical instruments, paintings, and other specimens of the fine arts; these sheds to be arranged in the general manner of those on the Fair Grounds at Alton; a ring well inclosed with posts and two plank, four hundred feet in diameter; a floral hall; a business office, twenty-five by sixty feet, with a partition across the center, with two outside doors and one middle door; a sufficient number of windows glazed; desks on each side of the building its entire length, with a sufficient number of seats; a police office and a ticket office, twelve by sixteen feet each, with necessary fixtures; four privies; the grounds to be supplied with sufficient water for all purposes, and at convenient points on the ground.

Resolved, That when this Board adjourn, it shall adjourn to meet in Springfield, on Wednesday, the fourth day of March next.

Resolved, That the President be authorized to receive applications from citizens of such places as desire the location of the State Fair, so that the subject of location will be ready for the action of the committee at the next adjourned meeting.

On motion, the Board adjourned till 3 o'clock P.M.

Three o'clock P.M.

The Board met.

Present—C. W. Webster, President; Messrs. Brown and Johns, Ex-Presidents; Messrs. Ellsworth, Singleton and Buckmaster, Vice-Presidents; S. Francis, Corresponding Secretary; Phil. Warren, Recording Secretary; John Williams, Treasurer.

On motion of Mr. Francis, the report of the Executive Committee of the proceedings of the Society for 1855 and 1856, was read, and ordered to be transmitted to the Governor, with a request that he lay the same before the General Assembly.

On motion of Mr. Buckmaster, Messrs. Singleton and Johns were appointed a committee to present a memorial to the General Assembly, asking an appropriation for the benefit of the Illinois State Agricultural Society.

A motion was made by Dr. Johns, that the proper engravings shall be made upon the medals awarded at the last fair; which was carried.

On motion of Mr. Williams, it was

Ordered, That the Recording Secretary procure a suitable record book for recording proceedings of the committee, and to make a complete copy of the proceedings of the Illinois State Agricultural Society, and of the Executive Committee, since their formation.

On motion of Gen. Singleton, the Board adjourned, to meet in Springfield on the 4th day of March, 1857.

SPRINGFIELD, *March* 4, 1857.

The Executive Committee met pursuant to adjournment.

Present—C. W. Webster, President; J. N. Brown, Ex-President; Messrs. Ellsworth, Kile, Capron and Buckmaster, Vice-Presidents; John Williams, Treasurer; S. Francis, Corresponding Secretary; and Phil. Warren, Recording Secretary.

On motion of Mr. Ellsworth, the minutes of last meeting were read and approved.

A communication from Dr. Kennicott was read and laid on the table, and ordered to be taken up with the list of premiums.

Communications soliciting the location of the State Fair were called for, when a communication was read from the Peoria County Agricultural Society, requesting the location of the next State Fair at the city of Peoria.

Also, a communication from the Edgar County Society, requesting that the fairs of the Illinois State Agricultural Society be permanently located at Springfield.

Which were ordered to lay upon the table until to-morrow morning.

On motion,

Resolved, That a premium of ten dollars be offered for the best treatise on the cultivation of the Chinese Sugar Cane, and the growing and manufacture of its juice into sugar and molasses, and a medal for the second best.

Adjourned till 7 o'clock P.M.

Seven o'clock P.M.

Board convened.

On motion,

Resolved, That there be four distinct classes of thorough-bred cattle, viz: Durhams, Devons, Ayrshires and Herefords.

The premium list was then taken up for consideration. After proceeding some time in its examination, adjourned till 8 o'clock to-morrow morning.

March 5, 1857—*eight o'clock P.M.*

The Committee met pursuant to adjournment.

The appointment of a General Committee of one from each county in the State was taken into consideration, and the following appointments were made.

GENERAL COMMITTEE FOR THE ILLINOIS STATE AGRICULTURAL SOCIETY.

COUNTIES.	NAMES.	POST-OFFICE.
Adams,	Col. Samuel Jamison,	Quincy.
Alexander,	William Massie,	Thebes.
Bureau,	Arthur L. Bryant,	Princeton.
Brown,	A. J. Provost,	Mt. Sterling.
Boone,	L. W. Lawrence,	Belvidere.
Bond,	William T. Hall,	Greenville.
Crawford,	S. Park,	Hutsonville.
Christian,	C. Goudy,	Taylorville.
Cook,	H. D. Emery,	Chicago.
Champaign,	J. Curtis,	West Urbana.
Cass,	Samuel Christy,	Lancaster.
Clark,	William Stevens,	Marshall.
Carroll,	David H. Wheeler,	Mt. Carroll.
Clay,	S. Evans,	Maysville.
Clinton,	O. B. Nichols,	Carlyle
Cumberland,	Alexander Caldwell,	Prairie City.
Coles,	B. F. Jones,	Charleston.
Calhoun,	Benjamin F. Childs,	Hardin.
De Witt,	Charles Brown,	Clinton.
De Kalb,	D. M. Kelsey,	Malta.
Du Page,	James S. Wright,	Naperville.
Edgar,	S. H. Elliott,	Paris.
Edwards,	F. B. Thompson,	Albion.
Effingham,	Presley Funkhouser,	Ewington.
Fayette,	F. Reman,	Vandalia.
Fulton,	John Piersoll,	Lewistown.
Franklin,	Levi Browning,	Benton.
Gallatin,	John Olney,	Shawneetown.
Grundy,	James N. Redding,	Morris.
Greene,	L. S. Norton,	Carrollton.
Hamilton,	Charles H. Hurd,	McLeansboro.
Henderson,	William Henderson,	Oquawka.
Hancock,	George W. Batchelor,	Carthage.
Hardin,	J. M. Warren,	Elizabeth.
Henry,	J. Willard,	Wethersfield.
Iroquois,	G. B. Joiner,	Middletown.
Jefferson,	E. B. Tanner,	Mt. Vernon.
Jersey,	J. M. Hurd,	Jerseyville.
Jasper,	William Nye,	Newton.
Jo Daviess,	S. S. Brown,	Galena.
Jackson,	Cyrus Thomas,	Murphysboro.
Johnson,	William L. Morris,	Vienna.
Kendall,	J. K. Le Barron,	Kendall.
Knox,	P. H. Sanford,	Knoxville.
Kane,	W. K. Parker,	Aurora.
Kankakee,	J. M. Perry,	Kankakee City.
Lake,	E. M. Haines,	Waukegan.
Logan,	R. B. Latham,	Lincoln.
Lee,	T. J. Little,	Dixon.
Lawrence,	Randolph Heath,	Lawrenceville.
La Salle,	E. Baldwin,	Farm Ridge.
Livingston,	W. J. Murphy,	Pontiac.
Macon,	Isaac C. Pugh,	Decatur.
Massac,	A. B. Brown,	Metropolis.
Moultrie,	Busbrod Henry,	Sullivan.
McLean,	C. M. Holder,	Bloomington.
Morgan,	A. Rockwell,	Jacksonville.
McHenry,	L. S. Church,	Woodstock.
Madison,	J. Gillespie,	Edwardsville.
Marshall,	Theodore Perry,	Lacon.
Marion,	S. L. Bryan,	Salem.
McDonough,	Alex. Blackburn,	Macomb.
Montgomery,	Solomon Harkey,	Hillsboro.
Macoupin,	J. Fishback,	Carlinville.

GENERAL COMMITTEE—CONTINUED.

COUNTIES.	NAMES.	POST-OFFICE.
Monroe,	W. R. Morrison,	Waterloo.
Mercer,	T. McWhorter,	Millersburg.
Mason,	H. McIntire,	Havana.
Ogle,	D. J. Pinkney,	Mt. Morris.
Pulaski,	James M. Davidge,	Caledonia.
Pike,	J. M. Bush,	Pittsfield.
Putnam,	Smiley Shepherd,	Hennepin.
Peoria,	Henry I. Chase,	Robin's Nest.
Piatt,	Jacob Piatt,	Monticello.
Pope,	Wesley Sloan,	Golconda.
Perry,	C. A. Keyes,	Du Quoin.
Rock Island,	G. C. Taylor,	Pleasant Ridge.
Randolph,	William Addison,	Sparta.
Richland,	J. T. Morehead,	Olney.
Saline,	Wm. Parish,	Raleigh.
Sangamon,	C. W. Matheny,	Springfield.
Stephenson,	W. S. Gray,	Freeport.
Shelby,	M. D. Gregory,	Shelbyville.
Scott,	E. G. Miner,	Winchester.
Schuyler,	Josiah Parrott,	Rushville.
St. Clair,	S. B. Chandler,	Belleville.
Stark,	Mr. Stone,	Lawn Ridge.
Tazewell,	Josiah Sawyer,	Tremont.
Union,	B. R. Wiley,	Jonesboro.
Vermilion,	M. Moudy,	Danville.
Wabash,	George Lessher,	Mt. Carmel.
Warren,	Jas. C. Madden,	Monmouth.
Winnebago,	R. Emerson,	Rockford.
White,	J. Stewart,	Carmi.
Whiteside,	M. S. Henry,	Sterling.
Wayne,	Daniel Turney,	Fairfield.
Washington,	Hiram Barber,	Richview.
Woodford,	R. T. Cassell,	Metamora.
Williamson,	John H. White,	Marion.
Will,	D. G. Young,	Joliet.

The location of the next State Fair was then taken up, and, on motion of Mr. Buckmaster, the following resolution was adopted:

Resolved, That this Society hold its next Fair at Peoria: *Provided,* That a satisfactory guarantee shall be given to the President that the grounds, fixtures and police shall be furnished without cost to this Society.

Resolved, That the President be authorized to employ any assistant or assistants he may think necessary in arranging the fixtures of the next State Fair.

Messrs. Ellsworth, Kile and Capron were appointed a committee to take into consideration the remarks of Mr. Powell in relation to the establishment of township school libraries.

A medal was awarded to C. W. Murtfeldt, for an essay on the rearing of cattle.

On motion of Mr. Capron, the following gentlemen were appointed a committee to report on the papers submitted by Dr. Kennicott, viz: Messrs. Johns, Capron and Buckmaster.

On motion of Dr. Johns, the design for a diploma presented by Mr. Jos. A. Miller was adopted, with the following proposition:

"I hereby propose to engrave the diploma presented by me for the following prices:

Engraving	$500
Printing each 100 copies on fine drawing paper	20
Design	60

"All copies ordered to be furnished on or before August 15th, 1857.

JOSEPH A. MILLER."

On motion,

Resolved, That when a diploma is awarded as a premium, it shall be framed.

Resolved, That Mr. Buckmaster be authorized to contract for the framing of the diplomas.

Adjourned till 2 o'clock P.M.

Two o'clock P.M.

The Committee met.

The consideration of the Premium List was resumed.

On motion,

Revolved, That the trial of reaping and mowing machines be made at Salem, in Marion county, at such time in June as may be designated by the President.

On motion of Mr. Buckmaster,

Resolved, That the "Headers" be allowed to compete with the reapers for premiums.

Resolved, That the next Illinois State Agricultural Fair be held on the 21st, 22d, 23d, 24th and 25th of September, 1857.

The committee appointed upon Dr. Kennicott's papers made the following report, which was received, and resolutions adopted:

"The committee upon Dr. Kennicott's papers beg leave to report that they have had the same under consideration, and offer to the Board the following resolutions:

Resolved, That the Board indorse the action of Dr. Kennicott, in accepting Mr. Lapham's essay on the grasses of Illinois, and that the Recording Secretary draw an order on the Treasurer of this Society for one hundred and fifty dollars, in favor of Mr. Lapham for such essay, with the use of explanatory plates.

Resolved, That the Corresponding Secretary be authorized to employ such assistance as he may need in editing through the press the forthcoming volume of Transactions; and be authorized to draw from the treasury such compensation as he may agree to pay for such services.

H. C. JOHNS, *Chairman.*"

Adjourned till 7 o'clock P.M.

Seven o'clock P.M.

The Committee met.

On motion,

Resolved, That the President be authorized to procure the services of a band through the next Fair.

On motion, the following appointments for Superintendents of the different departments of the next Fair were made:

1.	CATTLE	H. Capron.
2.	HORSES	S. A. Buckmaster.
3.	SHEEP, SWINE AND POULTRY	A. B. McConnell.
4.	AGRICULTURAL IMPLEMENTS	J. E. M'Clun.
5.	FARM PRODUCTS, ETC	H. S. Osborn.
6.	FRUITS AND FLOWERS	L. Ellsworth.
7.	MACHINERY, METAL WORK, CABINET WORK, ETC	Wm. Kile.
8.	MUSIC, PAINTINGS, ETC	J. W. Singleton.
9.	TEXTILE FABRICS	J. H. Stipp.
10.	NATURAL HISTORY, BOTANY, ETC	S. Y. McMasters.
11.	MISCELLANEOUS DEPARTMENT	John P. Reynolds.
12.	PLOWING MATCH	Uriel Mills.

Adjourned till 8 o'clock to-morrow morning.

FRIDAY MORNING—*eight o'clock A.M.*

The following named gentlemen were appointed a committee for the examination of Farms, Nurseries and Groves: William S. Wait, Bond county; W. Bebb, Winnebago county; and S. H. Elliott, Edgar county.

On motion of Mr. McConnell,

Resolved, That the Recording Secretary and S. A. Buckmaster be appointed a committee to contract for the plate to be used by the Society in payment of premiums at the next Fair.

Resolved, That the Corresponding Secretary be authorized to insert obvious omissions in the Premium List.

Resolved, That the Corresponding Secretary be authorized to draw on the Treasurer for fifty dollars for contingent expenses of his office, to be accounted for on a settlement with the Treasurer.

Resolved, That the Corresponding Secretary be authorized to receive and distribute, or safely keep, as the same may be, all books, seeds, or other articles, sent to or procured by the Society.

Resolved, That L. Ellsworth and S. Francis be a committee to confer with Mr. Powell in the selection of agricultural books for district school libraries.

Resolved, That we recommend for general attention the series of agricultural books published by S. M. Saxton & Co., New York.

Resolved, That a portion of the premiums of the Society be paid in agricultural books, and that the Corresponding Secretary contract for the same, subject to this provision: that no more books be paid for than are distributed by the Society as premiums.

Resolved, That we desire the extensive introduction of agricultural books into the district school libraries throughout the State, as a measure of great practical importance to the interests of the people.

Resolved, That the Superintendents of Departments report their committees to the Corresponding Secretary, and that it shall be the duty of the said Corresponding Secretary to ascertain from said committee-men if they will perform the duties of their appointment.

Resolved, That Smith Frye, Esq., be General Superintendent of the Fair Grounds.

On motion of Mr. Ellsworth,

Resolved, That the Corresponding and Recording Secretaries, and Mr. McConnell, be a committee to complete the Premium List.

Resolved, That the Corresponding Secretary be required to procure for each member of the Executive Committee, Agricultural and Horticultural works, to the amount of five dollars for each, and that the Treasurer pay for the same.

Resolved, That the Corresponding Secretary direct that the periodicals awarded for premiums at the last Fair, be sent to the persons entitled to them.

On motion, adjourned, to meet in Peoria on the Saturday evening previous to the next Fair.

FIFTH ANNUAL FAIR

OF THE

ILLINOIS STATE AGRICULTURAL SOCIETY,

HELD AT PEORIA, SEPTEMBER 21, 22, 23, 24 AND 25, 1857.

PREMIUMS AWARDED:

NOTE.—The State is not designated except where premiums are awarded for articles from other states.

CLASS A.

No. 1—DURHAM CATTLE—BULLS.

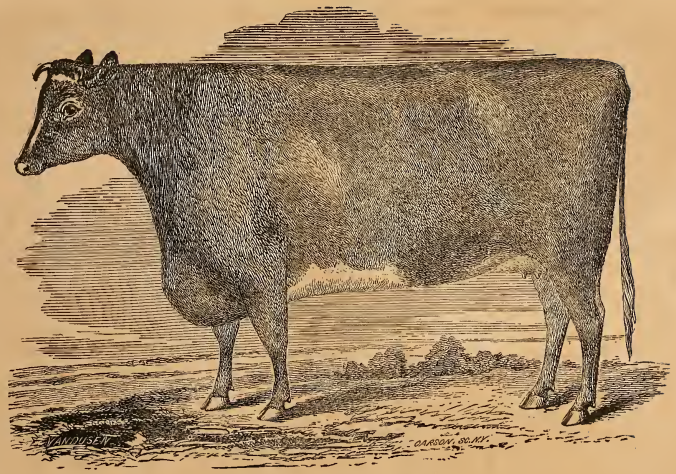
Best Bull, 4 years old and over, *Vanmeter*, Kennedy & Doyle, Bloomington	$40
Second best, *Mont Blanc*, Pollock & Retter, Jacksonville	20
Third best, *Sir Worthy*, E. B. Hitt, Winchester, Scott county	10
Best Bull, 3 years old and under 4, *Defender*, A. G. Carle, Urbana, Champaign co	40
Second best, *Belmont*, Pollock & Retter, Jacksonville	20
Third best, *S. A. Douglas*, Stephen Dunlap, Jacksonville	10
Best Bull, 2 years old and under 3, *Tempest*, James Strawn, Jacksonville	40
Second best, *Yeudor*, James N. Brown, Berlin, Sangamon county	20
Third best, *Young Moses*, C. C. Wrlght, Knoxville	10
Best Bull, 1 year old and under 2, *Young Whig*, James N. Brown, Berlin, Sangamon county	40
Second best, *Snow Drift*, E. B. Hitt, Winchester, Scott county	20
Third best, *J. C. Fremont*, Pollock & Retter, Jacksonville	10
Best Bull Calf, under 1 year old, *Young Buckeye*, James N. Brown, Berlin, Sangamon county	40
Second best, *Oakley*, J. P. Henderson, Morgan county	20
Third best, *Gen. Cass*, J. M. Hill, Cass county	10

COWS.

Best Cow, over 4 years old, *Beauty*, Calef & Jacoby, Springfield	30
Second best, *Isabel*, E. B. Hitt, Winchester, Scott county	15
Third best, *Santa Anna*, S. Dunlap, Jacksonville	10
Best Cow, 3 years old and under 4, *Lady Harriet*, Calef & Jacoby, Springfield	30
Second best, *Lady Blanche*, S. Dunlap, Jacksonville	15
Third best, *Maud*, Jas. N. Brown, Berlin, Sangamon county	10

HEIFERS.

Best Heifer, 2 years old and under 3, *May Flower*, S. Dunlap, Jacksonville	30
Second best, *Empress*, Calef & Jacoby, Springfield	15
Third best, *Orphan*, J. N. Brown, Berlin, Sangamon county	10



RENICK, 2nd.

Bred by George M. Chambers, of Jacksonville, and owned by J. M. Hill, Cass county, Illinois. Calved February 18, 1856. Got by Baltimore, 229, out of Renick, by Young Comet Halley, 1134; Catharine, by Goldfinder (2066); Delight, by Oliver (2387); Paulina, by Pontiac, 124, (4734); — by Contention (3479); — by San Martin (2599); — by Paul Jones (4661); — by Buzzard, 304.

Renick took a premium at the State fair, Peoria, as a yearling heifer, and at the Sangamon county and Cass county fairs, the same year.

[Face page 27.

Best Heifer, 1 year old and under 2, *Countess*, Stephen Dunlap, Jacksonville $30
Second best, *Renick*, James M. Hill, Cass county..... 15
Third best, *Red Bud*, Calef & Jacoby, Springfield..... 10
Best Heifer Calf, under 1 year old, *Bracelet 3d*, J. M. Hill, Cass county..... 30
Second best, *May Dacre*, J. N. Brown, Berlin, Sangamon county..... 15
Third best, *Red Rose*, J. P. Henderson, Morgan county..... 10

CLASS A.

No. 2—DEVONS—BULLS.

Best Bull, 4 years old and over, *May Boy*, Horace Capron, Alden, McHenry county... 40
Second best, *Meguntiecook*, C. D. Bent, Iowa City, Iowa..... 20
Third best, *Rob Roy*, H. Capron, Alden, McHenry county..... 10
Best Bull, 3 years old and under 4, none worthy..... ....
Second best, *Duke*, A. Van Volkenburg, Hillsdale, Michigan..... 20
Second best Bull, 2 years old and under 3 (only one entry) *Wyoming*, E.Van Volkenburg, Hillsdale, Michigan..... 20
Best Bull, 1 year old and under 2, *Dale*, E. Van Volkenburg, Hillsdale, Michigan ... 10
Best Bull Calf, under 1 year old, *Red Jacket*, C. D. Bent, Iowa City, Iowa..... 40
Second best, *Boreas*, Horace Capron, Alden, McHenry county..... 20
Third best, ——, Horace Capron, Alden, McHenry county..... 20

COWS.

Best Cow, over 4 years old, *Flord*, Horace Capron, Alden, McHenry county..... 30
Second best, *Adeline*, Horace Capron, Alden, McHenry county..... 15
Third best, ——, David Clow, Chatham, Sangamon county..... 10
Best Cow, 3 years old and under 4, *Bessie*, H. Capron, Alden, McHenry county..... 30
Second best, *Victoria*, C. D. Bent, Iowa City, Iowa..... 15
Third best, *Florence*, H. Capron, Alden, McHenry county..... 10
Best Cow, 2 years old and under 3, *Belle of Winchester*, C. D. Bent, Iowa City, Iowa.. 30
Second best, *Maud*, C. D. Bent, Iowa City, Iowa..... 15
Third best, *Prude*, C. D. Bent, Iowa City, Iowa..... 10
Best Heifer, 1 year old and under 2, *Octavia*, Horace Capron, Alden, McHenry county 30
Second best, *Beatrice*, H. Capron, Alden, McHenry county..... 15
Third best, ——, E. Van Volkenburg, Hillsdale, Michigan..... 10

No. 5—NATIVES AND CROSSES, ALL KINDS.

Best Cow, 4 years old and over, *Elizabeth*, A. G. Carle, Urbana..... 12
Second best, *Daisy*, A. G. Carle, Urbana..... 8
Third best, *Eliza Walcott*, J. P. Henderson, Morgan county..... 5
Best Cow, 3 years old and under 4, *Jenny Lind*, James Strawn, Jacksonville..... 12
Second best, *Little Martha*, A. G. Carle, Urbana..... 8
Best Heifer, 2 years old and under 3, *Lizzie Fairfax*, Godfrey & Sumner, Knoxville... 12
Second best, *Honora*, Josiah Sandusky, Catlin, Vermilion county..... 8
Third best, *Miss Pyle*, Jno. W. Jackson, Westborough, Clinton county, Ohio..... 5
Best Heifer, 1 year old and under 2, *Princess Ann*, A. G. Carle, Urbana..... 12
Best Heifer Calf, under 1 year old, *Bess*, Godfrey & Sumner, Knoxville..... 12
Second best, *Lady Fisher*, S. Dunlap, Jacksonville..... 8
Third best, *Emeline*, A. G. Carle, Urbana..... 5
Best 10 Calves, owned by one person or from one county, A.G.Carle, Urbana...Diploma and 25

No. 6—MILCH COWS—OPEN TO ALL BREEDS OF CATTLE.

Best Milch Cow, *Cherry Spot*, J. W. Brock, Mackinaw, Tazewell county.....Diploma and 20

No. 8—WORK OXEN AND STEERS.

Best 4 yoke of Oxen, owned by one person, Horace Capron, Alden, McHenry county.. 40
Second best, Thomas Johnson, Peoria..... 20
Best yoke of Oxen, 4 years old or over, Samuel McCann, Peoria..... 15
To boy not over 16 years of age, training yoke of Steers, 2 years old and under, J. H. Miller, Rosefield, Peoria county.....Medal and 5

SWEEPSTAKES—OPEN TO ALL BREEDS OF CATTLE.

Best Bull and 5 Cows or Heifers, from 1 year old and upwards, and from one county, James N. Brown, Berlin, Sangamon county.....Diploma and $50
Second best, Calef & Jacoby, Springfield.....Medal and 25
Best Bull and Cow, from any one county, James N. Brown, Berlin, Sangamon county.....Diploma and 40
Best 5 head of Calves, male and female, under 1 year old, and from one county, James N. Brown, Berlin, Sangamon county.....Diploma and 30
Second best, Stephen Dunlap, Jacksonville..... 15

CLASS B—HORSES, JACKS AND MULES.

No. 10—THOROUGH-BRED STALLIONS.

Best Stallion, 4 years old and over, *Pryor*, Hoppin & McConnel, Springfield..... 40
Second best, *Commodore Stockton*, Peter Roberts, Franklin, Morgan county..... 20
Best Brood Mare, over 4 years old, *Nell*, Phil. Warren, Springfield..... 40
Second best, *Sue Hartley*, Thomas Stacy, Jacksonville..... 20
Best Filly, over 2 years and under 3, *Cinderella*, W. E. Davis, Bement, Piatt county... 40

No. 11—ROADSTERS.

Best Stallion, over 4 years, *Green Mountain*, L. P. & W. D. Sanger, Springfield..... 40
Second best, ———, W. M. Warren, Carter, Sangamon county..... 20
Best Stallion, over 3 and under 4 years old, *Young Darby*, Deland & Co., Milford Center, Union county, Ohio.. 40
Second best, *Mohegan*, G. W. Stebbins, Galesburg, Knox county..... 20
Best Stallion Colt, over 2 and under 3 years old, *Young Green Mountain Boy*, J. P. Taylor, Bloomington..... 30
Second best, *Morgan Eclipse*, Samuel Powers, Decatur..... 15
Best Stallion Colt, over 1 and under 2 years old, *Yankee*, R. Crocker, Little Detroit, Woodford county..... 30
Second best, *Champion Eagle*, Samuel B. Emery, Trivoli, Peoria county..... 15
Best Brood Mare, over 4 years old, *Jenny Lind*, Joseph Morton, Jacksonville..... 40
Second best, *Lilly Dale*, L. P. & W. D. Sanger, Springfield..... 20
Best Filly, over 3 years old and under 4, *Fanny Leslie*, William Fitch, Jacksonville.. 40
Second best, *Bess*, Richard Longsdale, Peoria..... 20
Best Filly, over 2 years old and under 3, Andrew Kirkpatrick, Chillicothe, Peoria co'y 40
Second best, ———, Benjamin Tucker, Kickapoo, Peoria county..... 20
Best Filly, over 1 year and under 2, *Betty*, Benj. Tucker, Kickapoo, Peoria county... 30
Second best, *Queen*, H. Franks, Groveland, Tazewell county..... 15
Best Sucking Colt, (horse or mare), David Stitt, Trivoli, Peoria county..... 20
Second best, *Prairie State*, Charles Stone, Lawn Ridge, Marshall county..... 10

No. 12—DRAUGHT HORSES.

Best Stallion, for draught, 4 years old and over, *Young Sampson*, George H. West, Ottawa 20
Second best, *Black Hawk*, R. T. Hughes, Ewington, Effingham county..... 10
Best Stallion, for draught, 3 years old and under 4, *Prince Morgan*, H. Franks, Groveland, Tazewell county..... 20
Second best, *General Ney*, Calvin Pinkham, Hopper's Mill, Henderson county..... 10
Best Stallion, for draught, 2 years old and under 3, *Sampson*, Richard Howorth, Edwards' Station, Peoria county..... 20
Second best, John G. S. Bohannon, Smithville, Peoria county..... 10
Best Stallion, for draught, 1 year old and under 2, *Young Napoleon*, A. P. Cushman, Groveland, Tazewell county..... 20
Second best, *Diligence*, A. P. Cushman, Groveland, Tazewell county..... 10
Best Brood Mare, for draught, 4 years old, Daniel Hodson, Dillon, Tazewell county.. 15
Second best, *Lucy Stone*, A. P. Cushman, Groveland, Tazewell county..... 10
Best Mare, for draught, 3 years old and under 4, *Contract*, W. H. Renfro, Springfield 15
Best Filly, for draught, 2 years old and under 3, Dan'l Hodgson, Dillon, Tazewell co'y 15
Second best, Daniel Hodgson, Dillon, Tazewell county..... 10
Best Mare Colt, for draught, over 1 and under 2 years, A. P. Cushman, Groveland, Tazewell county..... 15

Second best, J. R. Butts, Southampton, Peoria county $10
Best Sucking Colt, for draught, Daniel Hodgson, Dillon, Tazewell county 10
Second best, G. W. Marchant, Farmington, Fulton county 5
Best pair of Draught Horses, for farm, James McKipsic, Farmington, Fulton county 20
Second best, *Bill* and *Mike*, A. L. Armstrong, Peoria.. 10

No. 13—CARRIAGE HORSES—MATCHES OF GELDINGS OR MARES FOR THE CARRIAGE.

Best pair matched Horses or Mares, "Geldings," Wm. Patrick, Chicago 30
Second best, "Mares," O'Donald & Warner, McLean county 15

No. 14—SINGLE HARNESS HORSES.

Best Gelding or Mare 4 years old and over, *Sam Maxey*, W. H. Renfro, Springfield.. 30
Second best, *Ripton*, Wm. Patrick, Chicago 15
Best Gelding or Mare 3 years old and under 4, *Sir Cassius*, Smith Frye, Peoria 30
Second best, *Fashion*, W. W. Williams, Canton, Fulton county 15
Best Gelding or Mare for saddle, 4 years old, *Lexington*, W. T. Scott, Springfield 30
Second best, "Gelding," S. C. Skank, Canton 15
Best Stallion for single harness, 4 years old and over, *Silver Heels*, J. W. Singleton, Quincy 40
Second best, *Sam Slick*, Samuel B. Emery, Trivoli, Peoria county 20
Best Stallion for single harness, 3 years old and under 4, *Buckeye Boy*, Benj. Ladd, Mahomet, Champaign county 40
Best Stallion Pony in harness, *Le Duke*, W. T. Scott, Springfield 30
Second best, *Quebec*, Geo. H. West, Ottawa 15
Best Gelding or Mare Pony, *Ben. Gray*, John Cook, Springfield 10

No. 15—JACKS, JENNETS AND MULES.

Best Jack 4 years old and over, *Compromise*, Pollock & Retter, Jacksonville 40
Second best, *Sam*, J. M. Irwin, Smithville, Peoria county 20
Best Jack 2 years old and under 3, *Gray Eagle*, Frank Fassett, Virden, Macoupin county 30
Best Jack 1 year old and under 2, G. W. Taylor, Chatham, Sangamon county 20
Second best, *Grand Turk*, Frank Fassett, Virden 10
Best Jennet 4 years old and over, W. B. Egan, Chicago 30
Best Jennet 2 years old and under 3, *Jane*, Pollock & Retter, Jacksonville 20
Best Jennet 1 year old and under 2, G. W. Taylor, Chatham, Sangamon county 20
Best pair of Mules for draught or farm, J. F. Jackson, Mackinaw, Tazewell county.. 20
Second best, M. Socks, Kickapoo, Peoria county 10
Best single Mule over 3 and under 4 years old, *Lola Montes*, D. Stafford, Decatur.... 10
Best single Mule over 2 and under 3 years old, *Jenny Lind*, E. B. Hitt, Winchester, Scott county 10
Second best, *Florence Nightingale*, Noah A. Jones, Hudson, McLean county ..... Medal.
Best single Mule over 1 and under 2 years old, *Eliza*, W. H. Renfro, Springfield..... 10
Second best, *Fanny Fern*, E. B. Hitt, Winchester, Scott county ..... Medal.
Best Mule Colt, Robert Wrighley, Trivoli, Peoria county 10

No. 16—SWEEPSTAKES—OPEN TO EVERY COUNTY AND TO ALL BREEDS.

Best 10 Colts from any county, A. P. Cushman, Groveland, Tazewell Co.....Diploma and 30
Best Stallion and 5 Brood Mares belonging to any one person, or from any one county, "black Horse *African* and 5 Brood Mares," Henry Morton & Co., Jacksonville ..... Diploma and 50
Second best, 2 Stallions and 5 Brood Mares, L. P. & W. D. Sanger, Springfield, ... Medal and 25
Best Mare, *Queen Isabel*, Joseph Morton, Jacksonville 50
Best Stallion, *Pryor*, Hoppin & McConnel, Springfield 50

CLASS C—SHEEP.

No. 17—LONG-WOOLED, BAKEWELL, ETC.

Best Buck 1 year old and under 2, *General Lane*, Calef & Jacoby, Springfield $10

No. 18—MIDDLE WOOL, SOUTH DOWN.

Best Buck over 2 years old, Z. B. Wakeman, Rockford, Winnebago county..... $10
Best Buck under 2 years old, *Cumberland Duke*, Calef & Jacoby, Springfield..... 10
Best pen of 5 Ewes over 2 years old, Z. B. Wakeman, Rockford, Winnebago county 10
Best pen of 5 Ewes 1 year old and under 2, Z. B. Wakeman, Rockford, Winnebago county..... 10

No. 19—FRENCH MERINOES.

Best Buck over 2 years old, *Young Sutton*, John McConnel, Springfield.....Diploma and 20
Second best, *Matchless*, Aug. Emery, Canton..... 10
Best Buck 1 year old and under 2, *Young Matchless*, Aug. Emery, Canton..Diploma and 20
Second best, *Young Progress*, A. B. McConnel, Springfield..... 10
Best Buck Lamb, *Sangamon*, A. B. McConnel, Springfield..... 15
Best pen of 5 Ewes over 2 and under 3 years old, John McConnel, Springfield, ...Diploma and 20
Second best, A. B. McConnel, Springfield..... 10
Best 5 Ewes over 1 and under 2 years old, Stipp & Latourette, Canton.....Diploma and 20
Best pen of 5 Ewe Lambs, Stipp & Latourette, Canton.....Diploma and 20
Second best, John McConnel, Springfield..... 10

No. 20—SPANISH MERINOES.

Best Buck over 2 years old, *Dick*, Daniel Kelly, Jr., Wheaton, Du Page county, ...Diploma and 20
Second best, E. E. Gorham, Hadley, Will county..... 10
Best Buck 1 year old and under 2, E. E. Gorham, Hadley, Will county.....Diploma and 20
Second best, Peleg S. Spencer, Danville..... 10
Best Buck Lamb, *Charles*, Daniel Kelly, Jr., Wheaton, Du Page county..... 15
Best pen of 5 Ewes over 2 years old, Daniel Kelly, Jr., Wheaton, Du Page county, ...Diploma and 20
Second best, Truman Humphreys, Elmwood, Peoria county..... 10
Best pen of 5 Ewes over 1 and under 2 years old, Daniel Kelly, Jr., Wheaton, Du Page county.....Diploma and 20
Second best, P. S. Spencer, Danville..... 10
Best pen of 5 Ewe Lambs, Daniel Kelly, Jr., Wheaton, Du Page county.....Diploma and 20
Second best, P. S. Spencer, Danville..... 10

No. 21—CROSS OF SPANISH AND FRENCH.

Best Buck over 2 years old, Stipp & Latourette, Canton.....Diploma and 20
Second best, Ira F. Elrod, Bernadotte, Fulton county..... 10
Best Buck over 1 and under 2 years old, John B. Wyman, Amboy, Lee county, ...Diploma and 20
Second best, G. W. Taylor, Chatham..... 10
Best Buck Lamb, A. B. McConnel, Springfield..... 15
Best pen of 5 Ewes over 2 years old, A. B. McConnel, Springfield.....Diploma and 20
Second best, John McConnel, Springfield..... 10
Best pen of 5 Ewes over 1 and under 2 years old, G. W. Taylor, Chatham...Diploma and 20
Second best, John McConnel, Springfield..... 10
Best pen of 5 Ewe Lambs, G. W. Taylor, Chatham.....Diploma and 20
Second best, Truman Humphreys, Elmwood, Peoria county..... 10

No. 22—FAT SHEEP.

Best 5 Fat Sheep under 2 years old, A. B. McConnel, Springfield..... 10

No. 24—SWEEPSTAKES.

Best lot of Sheep, not less than 1 Buck and 10 Ewes, owned by any one person, Daniel Kelly, Jr., Wheaton, Du Page county.....Diploma and 25
Second best, John McConnel, Springfield..... 10

CLASS D.

No. 25—SWINE.

Best Boar for use in this State, *Perfection*, Isaac M. Gillett, Hadley, Will county, ...Diploma and $20
Second best, *Venus*, J. M. Wetmore, Ontario, Knox county..... 10
Best Boar, 1 year old, *Prince*, Isaac M. Gillett, Hadley, Will county.....Diploma and 20
Best Boar 6 months old, *Chester White*, C. W. Graves, Groveland, Tazewell county, ...Diploma and 20
Second best, *Jerry Butler*, J. R. Galstan, El Paso, Woodford county..... 10
Best Breeding Sow 2 years old and over, E. Bartholomew, Elmwood, Peoria county, ...Diploma and 20
Second best, *Tilley*, Isaac M. Gillett, Hadley, Will county..... 10
Best Breeding Sow 1 year old and under 2, Isaac M. Gillett, Hadley, Will county, ...Diploma and 20
Best Sow 6 months old and under 1 year, *Chester White*, John Graves, Groveland, Tazewell county..... 10
Second best, *Pet*, Isaac M. Gillett, Hadley, Will county..... 5

No. 26—SWEEPSTAKES.

Best lot Hogs, Shoats or Pigs, not less than 1 Boar and 10 Sows, owned by any one person, or from one county, "1 Boar and 10 Sows," I. M. Gillett, Hadley, Will county.....Diploma and 30

CLASS E.

No. 27—POULTRY.

Best pair Polands, J. B. Warlow, Stout's Grove, McLean county..... $5
Second best, D. Callahan, Springfield..... 3
Best pair Shanghais, J. B. Warlow, Stout's Grove, McLean county..... 5
Second best, James La Tourette, Canton..... 3
Best pair Brama Pootras, B. H. Streeter, Morris, Grundy county..... 5
Second best, B. H. Streeter, Morris, Grundy county..... 3
Third best, B. H. Streeter, Morris, Grundy county.....Ag. Periodical.
Best pair Cochin Chinas, Alex. Lisk, Peoria..... 5
Best pair Turkeys, J. B. Warlow, Stout's Grove, McLean county..... 5
Second best, D. Callahan, Springfield..... 3
Third best, L. B. Corrington, Peoria.....Ag. Periodical.
Best pair Silesian Ducks, D. Callahan, Springfield..... 4
Best lot Guinea Hens, not less than six, D. Callahan, Springfield..... 5
Second best, E. H. Clapp, Rome Farm, Peoria county..... 3
Best pair China Geese, D. Callahan, Springfield..... 5
Pair Pea Fowls, second, J. B. Warlow, Stout's Grove, McLean county..... 3
Best pair Fancy Rabbits, P. M. Bartholomew, Peoria..... 5
Second best, Walter Colburn, Peoria..... 3
Best exhibition of various breeds of Poultry owned by exhibitor, D. Callahan, Springfield.....Diploma and 5
Second best, T. A. Miller, Peoria..... 3

CLASS F—AGRICULTURAL IMPLEMENTS.

No. 28—PLOWS.

Best Plow of newly invented principles or arrangements, not heretofore known, Which, on trial, proves beneficial to the farmer, Marshall Turley, Galesburg.....Dipl'a.
Best Plow for old prairie, M. D. Mendenhall & Sons, Farmington, Fulton county, ...Diploma and $10
Second best, Toby & Anderson, Peoria.....Medal.

Best Plow for clay soil, Vaughn & Peck, Naperville, Du Page county.....Diploma and 10
Second best, John Deere, Moline, Rock Island county.....Medal.
Best Sod Plow for oxen, Toby & Anderson, Peoria, ...Diploma and 10
Second best, John Deere, Moline, Rock Island county.....Medal.
Best Sod Plow for two horses, Vaughn & Peck, Naperville.....Diploma and 10
Second best, Toby & Anderson, Peoria.....Medal.
Best Sub-soil Plow, Toby & Anderson, Peoria.....Diploma and 10
Second best, John Deere, Moline, Rock Island county.....Medal.
Best Plow for all uses, Vaughn & Peck, Naperville.....Diploma and 10
Best Clod Crusher and Roller combined, H. D. Emery & Co., Chicago.....Diploma and 10
Best Horse Rake, Robinson, Dunham & Co., Peoria.....Diploma.
Second best, H. D. Emery & Co., Chicago..... 3
Best Corn Cultivator, Toby & Anderson, Peoria.....Diploma.
Second best, Vaughn & Peck, Naperville..... 3

No. 30—SHOVELS, FORKS, ETC.

Best and largest variety Agricultural Implements, H. D. Emery, Chicago,...Diploma and 10
Second best, Vaughn & Peck, Naperville..... 5
Best 6 Manure Forks, H. D. Emery & Co., Chicago..... 3
Best Ox Yoke, John Deere, Moline, Rock Island county..... 3
Second best, Andrew Dow, Bloomington..... .....Ag. Periodical.

No. 31—DRILLS, CORN PLANTERS, ETC.

Best Gauged Grain Drill, B. Kuhns, Dayton, Ohio,.....Diploma and 10
Second best, Selby, Jones & Co., Peoria..... 5
Best Corn Planter for horse power, Geo. W. Brown, Galesburg,.....Diploma and 10
Second best, Hinckley's patent, Charleston, Coles county..... 5
Best Corn and Seed Planter for horse power, George W. Brown, Galesburg, Diploma and 10
Second best, Jarvis Case, Peoria..... 5
Best Broadcast Sowing Machine, F. A. Gall & Co., Sterling, Whiteside county, ...Diploma and 10
Second best, J. Green & Co., Dayton, La Salle county 5
Best Timothy and Clover Seed Planter, B. Kuhns, Dayton, Ohio,.....Diploma and 10
Best Sod Corn Planter for horse power, Drew & Maihofer, Ottawa, ...Diploma and 10
Best Hand Corn Planter, J. Herva Jones & Co., Rockford, Winnebago county, ...Diploma and 10
Second best, S. L. Edwards, Griggsville, Pike county..... 5

No. 32—HARVESTERS AND MOWERS.

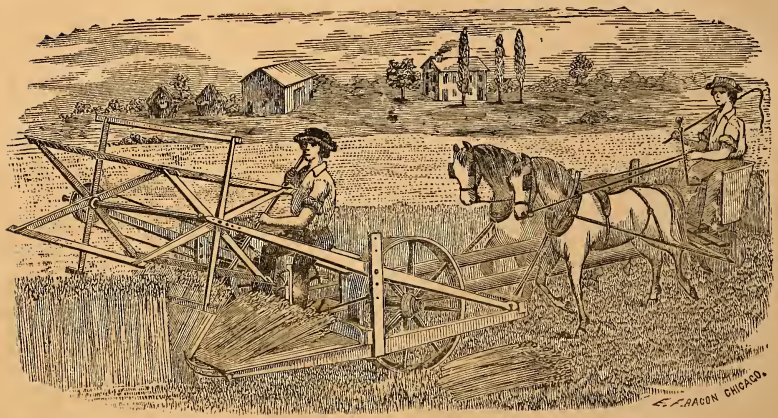
Best Reaping Machine, G. H. Rugg, Ottawa,.....Diploma and 100
Second best, Buckmaster & Wise, Alton..... 75
Best Mowing Machine, Buckmaster & Wise, Alton,..... Diploma and 100
Second best, Haines, Hawley & Co., Pekin..... 75

No. 33—OTHER IMPLEMENTS.

Best Threshing Machine and Horse Power, C. Altman, Canton, Stark county, Ohio, ...Diploma and 25
Best Horse Power for general purposes, H. D. Emery & Co., Chicago.....Diploma and 10
Best machine for cutting corn fer shocking, Will'am Bailey Coate², Bloomington, ...Diploma and 50
Best Corn and Cob Mill, "Joyce's Star Corn and Cob Mill, Improved," N. T. & T. E. Hunt, Indianapolis, Ind,.....Diploma and 10
Best portable Saw Mill, H. N. Goodrich, Aurora, ...Diploma and 10
Best Fanning Mill, H. N. Goodrich, Aurora,.....Diploma and 5
Second best, D. R. Knight, Henry, Marshall county.....Medal.
Best Clover Seed Hulling Machine, H. D. Emery & Co., Chicago.. .....Diploma.
Best horse power Corn Sheller, J. Van Horne, Magnolia, Putnam county,....Diploma and 10
Second best, A. Dillman, Plainfield, Will county.....Medal.
Best hand power Corn Sheller, Robinson, Dunham & Co., Peoria.....Diploma and 5
Best Straw and Hay Cutter, H. D. Emery, Chicago.....Diploma.
Second best, W. F. Welles, St. Louis, Mo.....Medal.

No. 34—HOUSEHOLD IMPLEMENTS.

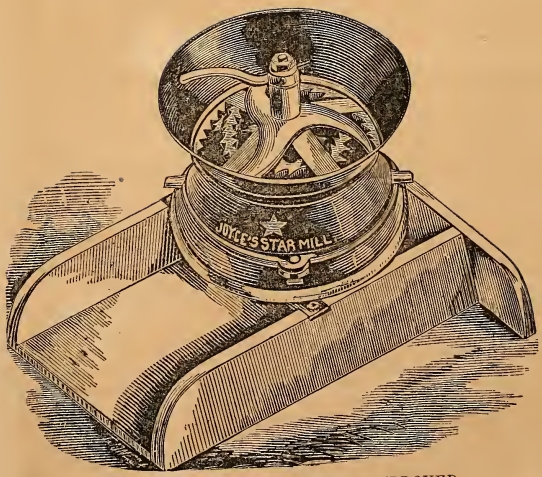
Best dozen Corn Brooms, Wm. W. Davis, Slackwater, Stark county.....Medal.
Best Churn, Franklin Thorpe, Springfield.....Medal.
Second best, O. C. Walker, Wyoming, Stark county..... .....Ag. Periodical.



RUGG'S REAPER AND MOWER.

For which was awarded, at the trial at Salem, Illinois, July, 1857, a diploma and $100. George H. Rugg, Ottawa, inventor and manufacturer.

[Face page



JOICE'S CORN AND COB MILL—IMPROVED.

N. T. & T. E. Hunt, manufacturers, Indianapolis, Indiana.

[Face page 33.

Best Cheese Press, H. D. Emery & Co., Chicago.....Medal.
Best Clothes Washing Machine, J. H. Jones, Griggsville, Pike county.....Medal.
Second best, Wm. Crispin, Northampton, Peoria county.....Ag. Periodical.

CLASS G—FARM PRODUCTS.

No. 35—GRAIN AND VEGETABLES.

Best sample Winter Wheat, not less than 1 bushel, Andrew McAllen, Shawneetown.. $5
Second best, Sidney S. Condon, Jonesboro.....Ag. Periodical.
Best sample Spring Wheat, H. Franks, Groveland, Tazewell county.....Medal.
Second best, J. C. Schnebly, Peoria.....Ag. Periodical.
Best sample of Rye, E. H. Clapp, Rome Farms, Peoria county.....Medal...
Second best, H. Hancock, Groveland, Tazewell county.....Ag. Periodical.
Best sample of Oats, H. Hancock, Groveland, Tazewell county.....Medal.
Best sample of different varieties of Indian Corn in the ear, H. Hancock, Groveland, Tazewell county, medal and..... 5
Best sample Indian Corn, 1 bushel, in the ear, Benj. L. Wiley, Anna, Union county, medal and..... 5
Second best, H. Hancock, Groveland, Tazewell county.....Ag. Periodical.
Best sample Timothy Seed, O. B. Galusha, Lisbon..... 5
Second best, H. Hancock, Groveland, Tazewell county.....Ag. Periodical.
Best sample Blue Grass Seed, H. Hancock, Groveland, Tazewell county..... 5
Best sample Potatoes, Alex. Lisk, Peoria..... 5
Second best, C. G. Taylor, Pleasant Ridge, Rock Island county..... 3
Best Seedling Potatoes, Alex. Lisk, Peoria..... 5
Second best, W. Durley, Hennepin..... 3
Best Sweet Potatoes, not less than 1 bushel. Jacob Hileman, Anna, Union county..... 5
Second best, John Bennett, Peoria..... 3
Best Beets for table use, not less than 1 bushel, H. T. Woodward, Kickapoo, Peoria county..... 3
Second best, John Bennett, Peoria.....Ag. Periodical.
Best Cabbage, not less than 12 heads, John Bennett, Peoria..... 3
Best Tomatoes, not less than 1 peck, John Bennett, Peoria..... 3
Second best, H. Hancock, Groveland.....Ag. Periodical.
Best Egg Plants, not less than 1 peck, John Bennett, Peoria..... 3
Best Peppers, not less than 1 peck, Mrs. J. S. Schnebly, Peoria..... 3
Best Lima Beans, not less than 1 peck, J. T. Little, Dixon, Lee county..... 3
Best Bunch Beans, not less than 1 peck, H. Hancock, Groveland..... 3
Best Field Peas, not less than 1 peck, E. H. Clapp, Peoria..... 3
Best and greatest variety of Garden Seeds, John Bennett, Peoria..... 3
Second best, H. T. Woodward, Kickapoo, Peoria county..... 2
Best lot Pumpkins, H. Hancock, Groveland..... 3
Best lot Squashes, A. J. Dunlap, Peoria..... 3
Second best, H. T. Woodward, Kickapoo, Peoria county..... 2
Best lot of other Melons, (citron,) A. J. Dunlap, Peoria..... 3
Best and greatest variety of Grain and Vegetables exhibited by one person, H. Hancock, Groveland.....Diploma and 10
Best and greatest variety of Garden Seeds, H. D. Emery & Co., Chicago...Diploma and 10

No. 36—FLOUR, STARCH AND MADDER.

Best barrel Flour exhibited by maker, (white winter wheat, 4¾ bushels,) Goodman & Davie, Jonesboro.....Medal and 5
Second best, (5 32-60 bushels,) P. Sage & Bros., Pekin.....
Best Starch of Wheat, not less than 10 lbs., (for laundry purposes,) C. M. Vandoren, Ottawa..... 5
Best Starch of Indian corn, not less than 10 lbs., (for laundry purposes,) C. M. Vandoren, Ottawa..... 5

No. 37—HAMS, BUTTER AND CHEESE.

Best Ham, boiled, J. S. Schnebly, Peoria.....Medal and 5
Second best, Mrs. J. C. Schnebly, Peoria..... 3
Best Butter in tub, not less than 50 lbs., made at any time during the year, C. G. Taylor, Rock Island county.....Diploma and 20
Second best, Caleb Harding, Groveland.....Medal and 10

Best Butter made in May or June, not less than 20 lbs., Charles Rich, Metamora, Woodford county $10
Second best, C. G. Taylor, Pleasant Ridge, Rock Island county 5
Best fresh Butter in roll, not less than 10 lbs., Mrs. Caleb Harding, Groveland, Tazewell county 5
Second best, Mrs. J. C. Schnebly, Peoria 3
Best Cheese 1 year old and over, Avery Hough, Plymouth 10
Best Cheese under 1 year old, Avery Hough, Plymouth 10
Second best, Charles Rich, Metamora, Woodford county 3

No. 38—HONEY, SUGAR, CAKES, PICKLES, ETC.

Best lot of Honey, not less than 10 lbs., H. N. Schooler, Hennepin 5
Second best, H. I. Chase, Robin's Nest, Peoria county 3
Best 20 lbs. Maple Sugar, D. C. Jaysler, Tremont, commended 5
Best 3 loaves Wheat Bread, Miss Molineux, Peoria 2
Second best, Mrs. A. P. Bailey, Peoria 5
Best 3 loaves Rye Bread, D. W. C. House, Peoria, highly commended 2
Best 3 loaves Corn Bread, D. W. C. House, Peoria, fair, no competition 5
Best Sponge Cake, Mrs. James Ivins, Peoria 2
Second best, Miss Anna M. Schnebly, Peoria 5
Best Pound Cake, Eliza Wilkinson, Robin's Nest, Peoria 2
Second best, D. W. C. House, Peoria 5
Best four Cakes, Mrs. Eliza Wilkinson, Robin's Nest, Peoria county ..... Commended, D. W. C. House, Peoria 5
Best Crackers, not less than 5 lbs., Childs & Bro., Chicago 2
Second best, D. W. C. House, Peoria 3
Best Pickled Cucumbers, Mrs. S. Francis, Springfield 3
Best Tomato Catsup, Mrs. S. Francis, Springfield 3

CLASS H—HORTICULTURAL DEPARTMENT.

SECTION I.

Best display of hardy Evergreen Trees from nursery, A. Bryant, Princeton 10
Best and greatest variety of Apples, named and labeled true to name, T. McWhorter, Millersburg 25
Second best, Arthur Bryant, Princeton 10
Best 15 varieties of Apples for all purposes, A. Bryant, Princeton 20
Second best, A. R. Whitney, Franklin Grove 5
Best 6 varieties of Apples for winter, A. Bryant, Princeton 5
Best and greatest variety of Siberian Crab Apples, A. Bryant, Princeton 3
Second best, O. P. Rodgers, Marengo 2

SECTION II.

Best and greatest variety of Pears, the product of this State, Robert Douglass, Waukegan 10
Second best, A. & F. Starr, Alton 5
Best specimen of Autumn Pears, Uriel Mills, Salem 8
Second best, Robert Douglass, Waukegan 3
Best specimen of Winter Pears, Robert Douglass, Waukegan 5
Best and greatest variety of Peaches, A. &. F. Starr, Alton 20
Best 12 Peaches of one variety, A. & F. Starr, Alton 3
Second best, Dr. B. F. Long, Alton 1
Best collection of Plums, Robert Douglass, Waukegan 10
Second best, C. Breese, Ottawa 3
Best 3 varieties of Plums, Robert Douglass, Waukegan 3
Second best, M. L. Dunlap, West Urbana 2
Best 12 Plums of one variety, J. D. W. Bowman, Havana 2
Second best, Robert Douglass, Waukegan 1
Best 12 specimens Quinces, Dr. E. S. Hull, Alton 3

SECTION III.

Best collection of Autumnal Raspberries, one-half pint each, Dr. J. A. Warder, Cincinnati, Ohio ..... Medal.

Best and greatest variety of Native Grapes, S. Shepherd, Hennepin..... $15
Second best, Mrs. S. Francis, Springfield..... 10
Best six bunches of Native Grapes, S. Shepherd, Hennepin..... 5
Second best, W. Durley, Hennepin..... 2

SECTION IV.

Best Peaches in cans or glass, Mrs. S. Francis, Springfield..... 3
Best Quinces in cans or glass, Mrs. E. S. Hull, Alton..... 3
Best Cherries in cans or glass, Mrs. H. C. Johns, Decatur..... 3
Best Gooseberries in cans or glass, Mrs. H. C. Johns, Decatur..... 3
Best preserved Quinces in sugar, Mrs. E. S. Hull. Alton..... 5
Best preserved Peaches in sugar, Mrs. Susan H. Armstrong, Peoria..... 4
Second best, J. Hitchcock, Northampton, Peoria county..... 3
Best Siberian Crab Apples in sugar, Mrs. W. B. Lyon, Peoria..... 5
Second best, Mrs. S. Francis, Springfield..... 3
Best preserved Pears in sugar, Mrs. S. Francis, Springfield..... 5
Second best, Mrs. J. E. Starr, Alton..... 3
Best preserved Strawberries in sugar, Mrs. S. P. Chase, Robin's Nest..... 5
Preserved Citron Melons, Mrs. E. H. Thomas, highly commended.....
Second best, Mrs. J. S. Schnebly, Peoria..... 3
Best Crab Apple Jelly, Mrs. S. Francis, Springfield..... 3
Best Plum Jelly, Mrs. S. Francis, Springfield..... 3
Best Currant Jelly, Mrs. E. S. Hull, Alton..... 3
Best Apple Butter, not less than 1 gallon, Mrs. Wm. H. Epsey, Groveland..... 5
Second best, H. Hancock, Groveland..... 2

SECTION V.

Best three bottles Currant Wine, Mrs. J. C. Schnebly, Peoria..... 5
Second best, H. Hancock, Groveland..... 2
Rhubarb Wine, Mrs. S. Francis, Springfield, honorable mention.....

SECTION VI.

Best and greatest variety named Flowers, Lewis Ellsworth, Naperville..... 5
Best and greatest variety of Dahlias named. The committee could not decide upon any one lot; they accordingly recommended diplomas to Messrs. Lewis Ellsworth & Co., Naperville, R. W. Hunt & Co., Galesburg, and J. T. Little, of Dixon.....
Second premium, Robert Douglass, Waukegan..... 3
Best Dahlias, twelve dissimilar blooms, Robert Douglass, Waukegan..... 5
Second best, Lewis Ellsworth & Co., Naperville..... 3
Best Dahlias, six dissimilar blooms, L. Ellsworth & Co., Naperville..... 3
Second best, Robert Douglass, Waukegan..... 1
Best and greatest variety of Roses, L. Ellsworth & Co., Naperville..... 10
Second best, R. W. Hunt & Co., Galesburg..... 5
Best twelve varieties of Roses named, L. Ellsworth & Co., Naperville..... 5
Best and greatest variety of Verbenas, L. Ellsworth & Co., Naperville..... 5
Best show of Verbenas of this year's seedlings, L. Ellsworth & Co., Naperville, high commendation and..... 5
Best and greatest variety of Asters, L. Ellsworth & Co., Naperville..... Floral Book.
Best Patunias, Lewis Ellsworth & Co., Naperville..... Floral Book.
Best collection Green-house Plants, L. Ellsworth & Co., Naperville..... $20
Second best, B. L. T. Borland, Peoria..... 10
Fuchsias, best collection not less than ten varieties, L. Ellsworth & Co., Naperville..... 10
And strongly recommend a Diploma in addition.
Best and greatest variety of Heliatropes, L. Ellsworth & Co., Naperville..... 5
Best display of Pansies, L. Ellsworth & Co., Naperville..... 3
Best and most tastefully arranged Cut Flowers, Richard Reese, Naperville..... Floral Book.
And would strongly recommend Diploma in addition.
Best and most tastefully arranged basket Cut Flowers, Miss Satira Thompson, Peoria..... Floral Book.
Best and most tastefully arranged plain round Bouquets, Richard Reese, Naperville..... Floral Book.
And would recommend a Medal for enterprise and taste.
Best and greatest variety Wild Flowers, named, Mrs. Ellen Gipps, Peoria..... 5
And recommend Diploma in addition.
Silver Medal recommended to Miss Cynthia Butler, of Lawn Ridge, for two fine Bouquets, Wild Flowers.
Committee unanimously recommended a special premium to J. T. Little, Dixon, Lee county, on Japan Lillies.

CLASS J—MECHANICAL DEPARTMENT.

No. 41—ENGINES, MACHINERY, ETC.

Wiggins, Murray & Co., Chicago, Steam Engine, entitled to.....Diploma.
John W. Hendall, Peoria, Steam Engine.....Silver Medal.
Campbell & Richardson, Springfield, Steam Engine..... $25
Best Fire Engine, B. W. Raymond & Son, Chicago.....Medal.
Best Stave Machine, Hoyt & Pinney, Aurora, Kane county.....Medal.
Best Pump for wells or farm use, J. L. Brown, Manomim, Minnesota Territory.....Medal.
Best Pump for cistern, B. W. Raymond & Son, Chicago.....Medal.
Best Water Ram or other hydraulic apparatus, B. W. Raymond & Son, Chicago.....Medal.
For a set of Self-emptying Buckets, Water Ram, etc., the executive board award to
Edwin Farnham, Janesville, Wisconsin, a.....Silver Medal.
Best Card Machine, S. P. Rounds, Chicago.....Medal.
Best portable Flour Machine, H. D. Emery & Co., Chicago.....Medal.
Best self-regulating Windmill, Mitchel Whiting, Galesburg.....Diploma and $10
Best Sewing Machine, Wheeler & Wilson's patent, G. W. R. Chittenden, Chicago.....Medal.

No. 42—APPARATUS OF FINE WORKMANSHIP, EXHIBITED BY MAKER.

Best specimen of Dentistry, J. P. Angle, Peoria.....Medal.

No. 43—FINE WORKED METALS OF AMERICAN MANUFACTURE.

Best Plated Ware, Ryan & Cromwell, Peoria.....Medal.
Best made Silver Plate J. T. Shoaff, Peoria.....Medal.
Best display of Mechanical Tools and Cutlery, Hotchkiss & Hansel, Peoria.....Medal.

No. 44—BRASS AND BELL FOUNDERS' WARES, Etc.

Best Iron Fence, L. E. Cook, Chicago.....Medal.

No. 45—VEHICLES.

Best Carriage for one or two horses, P. C. Redding, Peoria.....Diploma.
Best Top Buggy, J. F. Mensden & Co., Chicago.....Diploma.
Second best, E. D. Potter, La Salle.....Medal.
Best Open Buggy, T. & H. Smith & Co., Pekin.....Diploma.
Second best, G. S. Manning, Springfield.....Medal.
Best Wagon, G. W. & R. Smith, Peoria.....Diploma.

No. 46—CABINET WARE.

Best set of superior Parlor Furniture, E. B. Holmes, Peoria.....Diploma.
Best set of plain Parlor Furniture, E. B. Holmes, Peoria.....Diploma.

No. 47—COOPERS' AND CARPENTERS' WARE.

Best specimens of Pine Ware, Demmock & Gould, Moline, Rock Island county.....Medal.
Best Window Shades, Chambers & Sanborn, Chicago.....Diploma.
Best Tight Barrels for liquids, George F. Whiteman, Lacon.....Diploma.
Best Flour Barrel, S. Ruby, Peoria.....Diploma.

No. 48—SADDLERS' AND SHOEMAKERS' PRODUCTS.

Best pair Gent's Summer Boots, George Ditewig, Peoria.....Medal.
Best do Winter do do do.....Medal.
Best pair Lady's Slippers, Lenhart & Spears, Peoria.....Medal.
Best pair Gent's Buckskin Gloves, Edward Keane, Ottawa.....Medal.
Best Lady's long Fur and Doeskin Mittens, Edward Keane, Ottawa.....Medal.
Best Wagon Harness for farm, A. & J. Haas, Pekin.....Medal.
Best Carriage Harness, A. & J. Hass, Pekin.....Medal.
Best Upper Leather, Calf Skin, George W. Hatch, Princeton.....Medal.
Best Upper Leather, other kinds, George W. Hatch, Princeton.....Medal.
Best Gent's Riding Saddle, J. B. Molony, Vermont, Fulton county.....Medal.
Best Riding Bridle, A. & J. Haas, Pekin.....Medal.
Best Harness Horse Collars, J. B. Molony, Vermont, Fulton county.....Medal.

No. 49—HATTERS' AND UPHOLSTERERS' WORK.

Best Paper Hangings and Borders, John Frederick, Peoria.....Medal.
Best Silk Hats, Alex. Bishop, Peoria.....Medal.
Best Cloth Caps, Alex. Bishop, Peoria.....Medal.
Best Curled Hair Mattrasses, W. H. Fullerton, Peoria.....Medal.
Best Moss Mattrasses, John Frederick, Peoria.....Medal.

No. 50—WORKED METALS, HARDWARE, Etc.

Best Iron Wire or Brass Gauze Seives, Screens, etc., H. G. Nourse, Moline, Rock Island county.....Medal.
Best Window Shutter Fastener, O. B. Fowler, Galesburg.....Medal.
Best Gas Burners, "Wolsthomes," Perry & Carpenter, Chicago.....Medal.
Best Lamps, F. Odiorne, Boston, Mass.....Medal.

CLASS K.

No. 51—MUSICAL INSTRUMENTS.

Best Square Piano, A. Weber, Peoria.....Medal.

No. 52—SCULPTURE, PAINTINGS, AND DRAWINGS BY AMERICAN ARTISTS.

Best specimen of Animal Painting, in oil, Miss S. A. Adams, Peoria.....Diploma.
Best speciman of Animal Paintings, in water, Miss E. Benson, Peoria.....Diploma.
Best Daguerreotype of a Domestic Animal, R. M. Cole, Peoria.....Diploma.
Second best, S. R. Baker, Peoria.....Medal.
Specimen of Fruit Painting, Mrs. Isabella Douglass, Peoria.....Medal.
Best specimen of Flower Painting, Miss E. V. Spencer, Osceola, Stark county.....Diploma.
Second best, Mrs. I. Douglass, Peoria.....Medal.
Best specimen Monochromes, S. F. Flint, Galesburg.....Diploma.
Second best, Sarah A. Adams, Peoria.....Medal.
Best specimen Daguerreotypes, R. M. Cole, Peoria.....Diploma.
Second best, S. R. Baker, Peoria.....Medal.
Best specimen Ambrotypes, R. M. Cole, Peoria.....Diploma.
Second best, J. J. Harper, Peoria.....Medal.
Best Illinois Landscape, in oil, Mrs. Anna B. Millikin, Decatur.....Diploma.
Second best, Mrs. H. M. Boggess, Monmouth, Warren county.....Medal.
Best specimen Fancy Painting, in oil, H. C. Ford, Moline.....Diploma.
Second best, Miss S. A. Adams, Peoria.....Medal.
Best Copper-plate Engraving, Martin Fay, Chicago.....Diploma.
Second best, J. T. Shoaff, Peoria.....Medal.
Best Wood-cut or Engraving, J. T. Shoaff, Peoria.....Diploma.
Best specimen of Lithography, Martin Fay, Chicago.....Diploma.
Best Pencil Drawing, Mrs. Gipps, Peoria.....Diploma.
Second best, Miss E. V. Spencer, Osceola, Stark county.....Medal.
Best Crayon Drawing, Miss Sarah A. Adams, Peoria.....Diploma.
Second best, Jennie Mudgett, Peoria.....Medal.
Best specimen Typography, J. J. Clarkson, Chicago.....Diploma.
Best specimen Penmanship, Bryant & Stratton, Chicago.....Diploma.
Second best, M. J. W. Clark, Peoria.....Medal.
Best specimen Sculpture, Otto Tribel, Peoria.....Diploma.
Second best do do do.....Diploma.
Best specimen Carving in Wood, E. W. Power, Chicago.....Diploma.
Best specimen Architectural Drawings, Rankin & Janes, Chicago.....Diploma.
Second best, Charles Ulrickson, Peoria.....Medal.

CLASS L.

No. 53—TEXTILE FABRICS, AND MATERIALS OF WHICH THEY ARE MANUFACTURED.

Best made Suit of Clothes, by sewing machine, Tappan & Bro., Chicago.....Diploma.
Best made do do by hand, do do .....Diploma.
Best 10 yds. Satinett, Boll & Hill, Menard county.....Diploma.
Best 10 yds. Flannel, J. Green & Co., Dayton, La Salle county.....Diploma.

No. 54—HOUSEHOLD FABRICS.

Best Rag Carpet, 15 yds., Mrs. C. Maxwell, Peoria.....Diploma.
Best do 25 yds. Mrs. Hendel, Peoria..... $8
Best double Carpet Coverlet, Mrs. E. A. Slough, Peoria..... 8
Best pair Woolen Blankets, Mrs. C. Maxwell, Peoria..... 5
Best 10 yds. Kersey, Mrs. C. D. Bent, Iowa City, Iowa..... 5
Best pair Woolen Knit Stockings, Mrs. B. Synott, Peoria..... 3
Best Stocking Yarn, J. Green & Co., Dayton, La Salle county..... 3
Best Straw Bonnets, Mrs. F. Burrow, Peoria..... 3

No. 55—NEEDLE, SHELL AND WAX WORK.

Best evidence of taste and skill in plain Needlework by a girl under 14 years, Miss Georgiana Barrell, Springfield..... 5
Best specimen of Darning or Repairing, Mrs. Maxwell, Peoria..... 5
Second best, Miss L. Woodward, Kickapoo, Peoria county..... 2
Best pair Knit Hose, Mrs. R. W. Elliot, Paris..... 2
Best pair Fancy Hose for child, Mrs. Lucy Wyman, St. Louis, Mo..... 2
Best Domestic Counterpane, Mrs. Elrod, Bernadotte..... 8
Second best, Martha E. Martin, Bernadotte, Fulton county..... 3
Second best, Miss M. M. Dorsey, premium for excellent article..... 3
Best White Quilt, Mrs. Martha Dilworth, Vermont..... 8
Second best, Mrs. J. S. Baldwin, Baldwinsville, Edgar county..... 3
Best Patchwork Quilt, Mrs. J. F. Elrod, Bernadotte..... 3
Second best, Mrs. J. S. Schnelby, Peoria..... 2
Best Ornamental Quilt, Mrs. Chas. N. Fox, Naperville..... 8
Best Silk Quilt, Mrs. E. L. Baker, Springfield..... 3
Second best, Mrs. Charles G. Parker, Peoria..... 5
Best Embroidered Toilet Cushion, Julia A. Howard, Naperville..... 3
Second best, Mrs. Margaret Stone, Peoria..... 5
Best Embroidered Toilet Cushion, Bertha Cook, Kickapoo, Peoria county..... 3
Second best, Miss E. D. Collins, Henry, Marshall county..... 8
Best evidence of taste and skill in Ornamental Needlework, Mrs. Ellen Armstrong, Peoria..... 2
Second best, Miss E. Fleck, Peoria..... 5
Best evidence of taste and skill in Ornamental Needlework by a girl under 14 years, Miss Mary Laing, Peoria..... 2
Second best, Miss Abby West, Canton, Fulton county..... 5
Best Worked Collar, Lizzie Glover, Peoria..... 2
Second best, Mrs. E. Jones, Kappa, Woodford county..... 3
Best Needle Worked Undersleeves, Mrs. West, Canton..... 3
Best Needle Worked Skirt, Miss F. Sweeny, Peoria..... 3
Best evidence of taste and skill in Silk Embroidery, Mrs. H. Rehder, Peoria..... 2
Best do do do Worsted Embroidery, Miss Lizzie Glover, Peoria...
Best do do do do do by a girl under 14 years old, Miss C. Robinson, Peoria..... 3
Best worked Ottoman Cover, Mrs. C. H. Morrell, Peoria..... 3
Best pair Lamp Mats, Mrs. Horatio Nourse, Moline, Rock Island county..... 3
Best pair Slippers, Miss E. R. Bunniger, Peoria..... 3
Best fancy Work Basket, Miss Catherine Bergen, Peoria..... 3
Best fancy Card Basket, Miss L. A. Wilson, Groveland..... 2
Best embroidered Infant's Shawl, Mrs. G. Barrell, Springfield..... 3
Best embroidered Child's Dress, Mrs. William Robertson, Sparta, Randolph county.. 3
Best made coarse Shirt, Mrs. Caleb Harding, Groveland..... 3
Best Hearth Rug, D. W. C. House, Peoria..... 3
Best specimen of Flowers in Hair, Miss E. V. Spencer, Osceola, Stark county..... 5
Best case of Bonnets, Mrs. Sarah Daley, Peoria.....

CLASS M.

No. 56—NATURAL HISTORY, Etc. NATURAL PRODUCTS OF ILLINOIS.

Best collection of Native Woods, J. S. Scott, Paddock's Grove..... $10
Second best, Isaac Merriam, Tremont.....Medal.
Best Botanical Collection of Illinois, 2d premium, Mrs. Ellen Gipps, Peoria.....Medal.
Best specimen (100 pounds or more) Bituminous Coal, H. C. Freeman, La Salle..... $5
Second best, Adam Showl, Peoria.....Medal.

No. 57—CHEMICALS, Etc., TO BE EXHIBITED BY MANUFACTURERS.

Best specimens Soap, Mrs. J. S. Schnebly, Peoria.....Medal.
Best Lime, J. Lock, Alton.....Medal.
Best Composition for roofing, Wands & Butler, Chicago.....Medal.
Best Rose Water, Ritchie & Co., Peoria.....Medal.
Best barrel Salt, A. McAllen, Shawneetown.....Medal.

No. 59—WOOD AND STONE.

Best Shingles, Rawson & Bateham, Chicago.....Medal.

CLASS O.

No. 61—PLOWING MATCH.

First premium, John Deere & Co., Moline, Rock Island county..... 25
Second premium, S. O. Vaughn, Naperville..... 15

CLASS N.

No. 60—MISCELLANEOUS DEPARTMENT.

The articles entered in this class are those "for which no premiums were offered; but if found worthy were to receive the Society's commendation."

Ayre's Water Elevator, Henry A. Dyer, Hartford, Conn. (designed to raise water from wells for the use of cattle, by their weight at the through); highly useful invention.
Lightning Rods, Insulators and Attachments, Cordy Cutter & Co., Chicago; safe and recommended to the consideration of the public.
Dietz & Dunham's patent cam power Reaping and Mowing Machine, J. V. & D. J. Trump, Somerville, New Jersey; cam motion the best in use; recommended for simplicity and durability.
Worsted Knit Cape, Mrs. Lucy Wyman, St. Louis, Mo.; very neat work.
One case Ladies' and Gents' Furs, Alexander Bishop, Peoria; extra fine articles.
Pair of Vases, Miss E. R. Buniger, Peoria; unique and beautiful.
Miniature Cottage, Mrs. C. Bradley, Peoria; pretty.
Pair Poland Quails, Mrs. Wilber, Peoria; resemble bantam fowls.
Pair Malaria Ducks, Mrs. Wilber, Peoria; fair.
Pair Children's Cloth Gaiters, Lenhart & Spears, Peoria; very fine.
The same firm exhibited "White Kid Gaiters, Oxford Ties, Congress Gaiters, Ladies' Glove Kid Heel Gaiters, and Ladies' Embroidered Slippers." These articles show remarkably neat and good workmanship.
Self-raking Reaper and Mower combined, P. Manny; commended for self-raker and superior faculty for turning.
F. M. Ray's Car Spring, F. M. Ray, New York city; worth trying.
Cut specimen Wild Flowers, Miss L. Brentman, Peoria; very tasty.
Model Steam Plow, Shaw & Whiting, Peoria; may work well.
Fire Pumps, E. Sanderson, Chicago; highly efficient.
Mahogany veneered Wardrobe, Wm. Kechne, Peoria; fine work.

Best uncolored Photographs, S. R. Baker, Peoria; neatly executed and very beautiful.
Lot Artificial Flowers, Mrs. F. Burrows, Peoria; charming.
Lot Chewing Tobacco, Robert Day, Peoria; good.
Lot high bush Cranberries, John Hancock, Groveland; good.
Lot Barberries, John Hancock, Groveland; fine.
Safe, Lucus & Baider, Peoria; first best.
Lot Confectionery, L. Myers, Peoria; well manafactured.
Machine for Stuffing Collars, J. C. Tobias, Lincoln, Logan county; a cheap and efficient machine; committee recommend diploma.
Bead Purse, Mrs. C. D. Bent, Iowa City, Iowa; very neat.
Perfumery, Ritchie & Co., Peoria, very fragrant.
Greatest variety of Pickles, Mrs. S. P. Chase, Robin's Nest, Peoria county; well put up and excellent.
Designs for internal arrangement of School Houses, V. Woodcock, Swansea, New Hampshire; excellent arrangements, highly approved and recommended.
Collection of Insects, David C. Green, Peoria; fine collection and tastefully arranged.
Cider Mill, H. D. Emery & Co., Chicago; efficient mill.
Portable Log Saw, cross cut, H. D. Emery & Co., Chicago; good.
Dog Power for Churning, H. D. Emery & Co., Chicago; fine machine for the purpose.
One Horse Power, H. D. Emery & Co., Chicago; best.
Case Masonic and Odd Fellows' Regalia, C. H. Dean, Peoria; a diploma recommended by committee, as the workmanship is unsurpassed.
Corn Shucking Machine, George Morton, Cincinnati, Ohio; will be approved whenever tested, committee recommend diploma.
Overcoat made by machine, Tappan & Bros., Chicago; worthy a diploma.
Fancy Frosting of Cake, D. W. C. House, Peoria; nice.
Harrow, Vaughn & Peck, Naperville; good.
Hungarian Grass Seed, Isaac Sharp, Fairfield, Iowa; good; perhaps worth testing as food for stock.
Two Cameos, Scott & Clay; fine.
Photograph of the statue of Washington, I. W. Hallam, Chicago; very fine.
Portable Platform Scales, S. S. Hitchcock, Chicago; good; intended as an improvement on Fairbank's, committee recommend a diploma.
Other articles entered by S. S. Hitchcock: Pork Packing Scales, Flour Packing Scales, Counter Platform Scales, Even Balanced Beam Scale, Letter Presses, Sugar Mill; useful inventions, too well known to require commendation.
Gilmore's patent Bee House, H. N. Schooler, Hennepin; very fine, probably best in use.
Bird Cage, Philip Brown, Washington, Tazewell county; very neat.
Sets Block Weights, S. S. Hitchcock, Chicago; fine.
Book Folding and Stitching by a girl of 8 years, Alice Paine of Springfield; very commendable.
Overcoats and Robes of Fur, Edward Keane, Ottawa; very fine.
Target Rifle, William Bishop, Springfield; very good, committee recommend a medal.
Spring Bedstead, E. B. Holmes, Peoria; good and easy, as was proved by occupancy.
Machine for stuffing Horse Collars, Nelson & Newman, Springfield; efficient, but complicated and costly.
Sod Corn Planter for hand use, P. B. Green, Chicago; quite an improvement, and recommended.
Leather Work, Mrs. C. L. Parker, Peoria; best specimen.
Mammoth Pumpkin, Joseph Miller, Wyoming, Stark county; very fine and large.
Citron Jelly, Mrs. E. H. Thomas, Peoria; fair.
Best Upsetting Wagon or Carriage Tires, bands or straight pieces of iron, W. W. & R. M. Patchin, Springfield; just what it claims to be, committee recommend diploma.
Fancy Sign Painting on Glass, in oil, J. A. Bush, Peoria; very fine.
Egg Beater, E. D. Potter, La Salle county; useful.
P. Duff's system of Book-keeping, P. Duff, Pittsburg; a good system, recommend diploma.
Machine for Cutting Corn from the Cob, Wm. B. Coats, Bloomington; a new, novel and nice arrangement.
Smyth's patent Platform Scales, D. Smyth, Peoria; ingenious and simple.
Carpenter's Saw, Hotchkiss & Hansel, Peoria; finely finished.
Gun Case and Accoutrements, Colt's Revolver, Cork Screws, Hotchkiss & Hansell, Peoria; well made.
Lot of German Soap, F. Tretschler, Peoria; will effectually take off the dirt.
Bryant & Stratton's Mercantile College Manuscripts, Bryant & Stratton, Mercantile College, Chicago; most excellent system and highly recommended for diploma.
Portable Cider Mill and Press, L. H. Case, Pekin; good.
Dynamometer, H. D. Emery & Co., Chicago; the committee recommend the highest award for this useful instrument.

Half barrel yellow Corn Meal from corn of the growth of 1857, and samples of Corn, Thos. B. Droger, Marion county; good sample, the only one presented.
Snare Drum, Henry S. Wonder, Peoria; good drum, finely finished.
Fancy Keg, R. W. Toppingall, Pekin; ingenious.
Fancy Patch Work Quilt, Mary A. Barton, Peoria; not easily excelled.
Kohl Rabi, R. W. Toppingall. Pekin; large and fine.
Horse-shoes, W. R. Howell, Peoria; well made.
Trusses, Rupp & Balchler, Tremont; well made.
Patent Spring Bedstead, Dredge & Lincoln, Peoria; very good article, committee recommend diploma for workmanship and finish.
Hickory Broom, George Washington, Peoria; good.
Common Chairs, Dredge & Lincoln, Peoria; well made.
Common Rocking Chair, fancy rocker, Dredge & Lincoln, Peoria; very good.
Fancy Easy Chair, Dredge & Lincoln, Peoria; extra of the kind.
Fancy Stand, Arch Lounge, Dredge & Lincoln, Peoria; beautiful workmanship.
Phelp's Combination Bee Hive, H. B. Gifford, Danby, Du Page county, good arrangement.
Preserved Spiced Cherries, Mrs. E. D. Root, Peoria; nice.
Tomato Pickles, best and greatest variety, Mrs. E. D. Root, Peoria; decidedly nice.
Needle Book, Mrs. A. R. Spurgin, Winchester; elegantly wrought.
Pin Cushion, Mrs. Spurgin, Winchester; neat.
Bushel Winter Barley, B. L. Wiley, Union county; good.
Combined Reaper and Mower, Gridley, Cogswell & Co., Ottawa; arrangement and machine unsurpassed.
Chinese Sugar Cane, B. H. M. Streete, Morris; good.
Beardless Barley, B. H. M. Streete, Morris; fair specimen.
Photographs in Colors, Fassett & Cook, Chicago; hard to beat.
Reaper and Stacker, Murray, Van Doren & Glover, Ottawa; does its work well and fast, committee recommend diploma.
Chinese Sugar Cane, E. H. Clapp, Rome Farms, Peoria county; rich in saccharine matter.
Hominy, various grades, H. O. Wagoner, Chicago; extra superfine.
Hedge Trimmer, S. Bradbury, Griggsville, Pike county; something new, and from appearance will do its work well, committee recommend diploma.
Wind Engine or Mill, S. A. Wurtz, Quincy, Franklin county, Penn.; good combination for safety; works well.
Leather Picture Frames, Mrs. A. E. Petthebridge, Peoria; neatly wrought.
Spring Mattrass, W. H. Fullester, Peoria; an excellent article.
Chinese Sugar Cane Syrup, C. G. Taylor, Pleasant Ridge, Rock Island county; an excellent article; we recommend a diploma.
Corn Starch, C. M. Van Doren, Ottawa; unsurpassed; a diploma or premium, if allowable.
Fancy Painting, J. S. Hyatt, Geneseo; good.
Model Sleigh, W. H. Giwitz, Lafayette, Stark county; a decided advantage over the old style.
Improvement on Reaper, Pitman, same; commends itself at sight; should be put in use.
Improved Cant Hook, same; an improvement.
Grocer and Counter Scales, Portable Scales for warehouse and store, Fairbanks' Iron Lever Hay and Stock Scales, Rolling Mill Scale, Beam Scale, Walker & McIlvaine, Peoria; the value of these scales is too well known to need comment.
Improved hand Drilling Machine, J. A. Tewksbury, Galesburg; useful and efficient.
Lightning Rods, Lester Patee, Peoria; fine specimens.
Anatomical Plates, Elias Smith, Farmington, Fulton county; good representations.
Lady's Bee Hive, Mrs. A. R. Green, Galesburg: very neat and ornamental.
Preserved Water Melon, Preserved Musk Melon, Sweet Pickles, R. W. Hunt & Co., Galesburg; good, and look fine.
Painting of Flowers, Miss Sarah A. Adams, Peoria; very beautiful indeed.
Lamp Mat, Mary Pettit, Trivoli, Peoria county; very nice and beautiful.
Lot of Silver Cake, Miss Anna M. Sohnebly, Peoria; fine.
Road Scraper, Johns & Tribble, Albion, Edwards county; a first rate implement; we commend it for use.
Needle-Work, Mrs. S. A. Stevens, Peoria; fine.
Card and Cigar Baskets, Mrs. McCall, Peoria; well wrought.
Water Melon Preserves, Mrs. Agnes Mayo, Robin's Nest; very nice.
Wild Grape Jelly, Mrs. Agnes Mayo; fine.
Wild Plum Preserves, Mrs. A. Mayo; very good.
Apple Jelly, Mrs. A. Mayo; very nice.
Chittagong Fowls, D. Callahan, Springfield; fine.
Agricultural Steam Boiler, J. B. Chadwell & Co., St. Louis, for cooking large quantities of food for animals; recommended as efficient.
Photographs in oil, R. M. Cole, Peoria; good.
Model of Riley's Reaper and Mower, John Heath & Co., Palmyra, Jefferson county, Wis.; worthy of notice for equalizing draught, and for its general arrangement.

Lot various Saws, H. Dunn & Co., Peoria; worthy of especial notice, as of domesti manufacture; we recommend diploma.
Sickle, H. Dunn & Co., Peoria; excellent.
Rubber Belting, H. D. Emery & Co., Chicago; well made.
Speedometer, H. D. Emery & Co., Chicago; an important and nice instrument, worthy especial attention; a diploma recommended.
Velvet Carpet, American manufacture, Geo. Stettenius, Peoria; extra article.
Ornamental Gilt Frame, John A. Bush, Peoria; very good.
Lot of Starch, Peoria Starch Company; good.
Hominy Grinder or Mill, J. H. Schnebly, Mossville, Peoria county; good machine.
Lot of China, Grey & Davis, Peoria; very rich.
Portrait of Henry Clay, encircled in his hair, Mrs. W. R. Phelps, Peoria; exceedingly fine, and worthy a medal.
Net Shawl of Shetland wool, domestic made, Mrs. W. R. Phelps, Peoria; very fine article.
Grafting Machine, Smith G. Minkler, Kendall county; worthy especial notice.
Mexican Spurs, S. Tustin; Magnolia; good.
Mexican Lassoes, S. Tustin, Magnolia; bad for neck-tie.
Mexican Saddle, S. Tustin, Magnolia; exquisite workmanship.
Kedzie's Rain and River Water Filters, J. A. Cheney & Co., Rochester, N. Y.; excellent and effective for the purpose designed.
Jar of Lard, Mrs. Catherine Maxwell, Peoria; very superior.
Chopped Tomato Pickles, Mrs. Bertha Cook, Peoria; nice.
Two Bear Cubs, W. Jenning, Eureka; no competition, but supposed to be good cubs.
Pair Chittagong Fowls, J. B. Wardlaw, Stout's Grove, McLean county.
Hungarian Grass Seed, Isaac Sharp, Fairfield, Iowa; we recommend its trial.
Specimen of Transfer Needle-Work, Mrs. Mary Bergen, Peoria.
Lot of Jumbles, Mrs. Irons, Peoria; No. 1.
Vegetable Ivory Ornaments, Simon Horan, St. Louis; very well executed.
Colored Printing, W. W. Pike, Peoria; fine.
Card Printing, W. W. Pike, Peoria; fine.
Collection of Camelias, winter blooming, J. S. Underhill, Peoria; very fine.
Lot of Foreign Shells, John Karny, St. Louis.
Vegetable Cutter, H. D. Emery & Co., Chicago; efficient.
To Miss Fanny Baldwin and Mrs. Clark were awarded each the Society's medal for the fine flag got up by them, and used by the Society.

S. FRANCIS,

Corresponding Secretary Illinois State Agricultural Society.

SALES OF STOCK AT THE STATE FAIR..

BY J. N. BROWN, OF SANGAMON.

Young Whig, Yearling Bull, sold to John Elting for	$300 00
Yearling Bull, sold to Thos. Johnson, Peoria county, for	100 00
Bull Calf, sold to McMurtry, of Peoria county, for	90 00
Young Townley, Yearling Bull, to H. C. Nelson, Fulton county, for	190 00
Pilot, Yearling Bull, to Wm. Hanna, Jr., Henderson county, for	75 00
Gen. Cass, Yearling Bull, to W. S. McGerrity, Woodford county, for	125 00
Tom Harris, Yearling Bull, to Thomas Hurf, Peoria county, for	115 00

BY G. W. CARTER.

Gold Finder, Bull, sold to Wm. Rowe, Marshall county, for	50 00
One year old Heifer, sold to P. Smith, Peoria county, for	80 00
Rosebud, Yearling Heifer, sold to Wm. T. Hopkins, Grundy county, for	165 00
Florence, Yearling Heifer, to Wm. T. Hopkins, Grundy county, for	60 00
Betty Lewis, Yearling Heifer, to Wm. F. Blandon, McDonough county, for	45 00
Muley, Yearling Heifer, to Wm. F. Blandon, McDonough county, for	70 00
Jenny Scott, Yearling Heifer, to Wm. T. Hopkins, Grundy county, for	37 50
Nine Yearling Heifers, to Wm. T. Hopkins, Grundy county, each for	30 00

BY JAMES STRAWN.

Morgan, Bull Calf, sold to J. R. Hitt, La Salle county, for	60 00
One four year old Cow, sold to J. R. Hitt, La Salle county, for	35 00

One Yearling Bull, sold to Wm. T. Hopkins, Grundy county, for..... 90 00
Gen. Harrison, Yearling Bull, to W. Hueston, Hancock county, for..... 100 00
One Heifer, ten months old, to J. M. Harris, Henderson county, for..... 105 00

MISCELLANEOUS.

By J. P. Henderson, a Yearling Bull, to H. Schnebly, Peoria county, for..... 30 00
By M. Patten, Strawberry Day, a Calf, to M. C. Hildreth, Peoria county, for..... 35 00
By M. Sandusky, Honora, a Cow, to J. Hunter, for..... 75 00
By A. G. Carle, a full-blood Heifer, to C. Harris, for..... 85 00
By A. G. Carle, a two year old Bull, to W. Hueston, for..... 75 00
By Mr. Bosworth, Warren county, a red Cow nine years old, to Jesse Funk, Stark county, for..... 40 00
By S. B. Emery, Stallion, Know Nothing, to Col. P. Menard, Tazewell county, for.. 125 90
By G. W. Carter, a Pony, to D. C. Ballance, for..... 150 00
By J. S. Schnebly, a red Bull Calf, to parties unknown, for..... 29 00
By Col. Capron, (at private sale,) Florence, a Devon Heifer, to T. H. Kelly, Peru, for..... 300 00

FIELD CROPS.

PREMIUMS AWARDED AT THE JANUARY MEETING OF THE EXECUTIVE COMMITTEE, 1857.

For the best forty acres of Spring Wheat, (32¾ bushels per acre,) Hugh Huls, St. Charles, Kane county. [The premium for this crop is Manny's Reaper, donated to this Society, by Messrs. Talcott, Emerson & Co., of Rockford, Illinois.
For best five acres Fall Wheat—premium—240¾ bushels on the five acres, John Anderson, Sparta, Randolph county..... Diploma and $25
For best five acres of Spring Wheat—first premium—35 bushels per acre, Harrison Hancock, Tazewell county..... Diploma and 25
For best crop of Indian Corn, five acres—first premium—122 bushels, 22lbs, per acre, Harrison Hancock, Tazewell county..... Diploma and 25
For best five acres of Oats—first premium—95 bushels per acre, Harrison Hancock, Tazewell county..... Diploma and 25
Second premium—88½ bushels per acre, Daniel Kelly, Wheaton, Du Page county..... Medal.
For best half acre of White Beans—first premium—21 bushels, 20lbs, Harrison Hancock, Tazewell county..... Diploma and 20
Second premium—13½ bushels per ½ acre, Levi Mason, Bureau county..... Medal.
Best half acre of Potatoes—premium—250 bushels per half acre, Harrison Hancock, Tazewell county..... Diploma and 20
Best acre of Timothy Seed—premium—15 bushels per acre, Harrison Hancock, Tazewell county..... 10
Best acre of Blue Grass Seed—premium—24 bushels per acre, Harrison Hancock, Tazewell county..... 10
Best one fourth of an acre of Onions—premium—70 bushels per quarter acre, A. B. Rumsey, Kankakee county..... 10
Best Chinese Sugar Cane Syrup, Josiah Sawyer, Tazewell county..... Gold Medal.
Second best, Moses Pierson, Sangamon county..... 15
Third best, J. H. Smith, Adams county..... 10

FARMS AND NURSERIES.

AWARDS MADE BY MESSRS. WAIT AND ELLIOTT, COMMITTEE ON FARMS AND NURSERIES, AND CONCURRED IN BY THE EXECUTIVE COMMITTEE.

Best improved and most highly cultivated Farm of 500 acres—first premium—Jas. N. Brown, Sangamon county..... Diploma.
Second best, Benjamin Burt, Champaign county..... Medal.

For best and most highly cultivated Nursery, containing the best variety of Fruit Trees, Ornamental Shrubs and Plants, Charles Kennicott, West Northfield, Cook county.....Diploma.
Second best, M. L. Dunlap, West Urbana, Champaign county..... Medal.

ESSAYS.

FOR WHICH PREMIUMS WERE AWARDED BY THE EXECUTIVE COMMITTEE, AT THEIR JANUARY MEETING, 1857.

On Rearing Horses and Mules, by Phil. Warren, Morgan county..... $10
On the Culture of Forest and Ornamental Trees on the Prairies, by O. Ordway, Marshall county..... 10
On the Cultivation of Forest Trees on the Prairies, by C. R. Overman, Bloomington, McLean county..... 10
Disquisition on Self Education, by J. C. Power, Peoria.....Recommended for publication.
On the Embellishment of a Country Home, by Miss Frances E. Willard, Janesville, Wisconsin..... 10

COMMITTEES' REPORTS FOR 1856.

REPORT ON SHORT HORN BULLS.

To the Executive Committee of the State Agricultural Society:

Your Committee have discharged, to the best of their ability, the task which you confided to them, and beg leave to report that they have never seen so fine an exhibition of short horn cattle in Illinois; and that some members of your Committee, who are residents of States famed for their short horned cattle, know that much of your stock would be dreaded in competition with theirs. You must not wonder then, when we state that where we had so many rival animals, that decisions were often difficult and next to impossible, and that even a fourth or fifth premium in some of the rings would be a high honor.

BENJ. L. DORSEY, *Chairman.*

REPORT ON SWEEPSTAKES.

We have about the same to say in reference to the stock that came under our notice in this class, as in the class of Short Horn Bulls. The herd animals were a splendid lot, and would be admired alongside the best English herds. The same may be said of the exhibition of stock for premium, for the best bull and cow from any one county.

BENJ. L. DORSEY, *Chairman.*

DEVON COWS.

The Committee of Class A, of Devon Cows, respectfully report, that they have attended to the duties assigned them with all the attention and industry they were capable of bestowing, with a singleness of purpose promotive of the views of the Society in awarding premiums in the spirit of an impartial and disinterested judgment. We have endeavored, to the best of our ability, to award the premiums to those animals possessing the most points of excellence and the greatest purity of blood; exercising however our best judgment in making the following awards; trusting that our decisions may be acceptable to the Society and give reasonable satisfaction to the contributors in general.

Z. B. WAKEMAN, *Chairman.*

[The awards are given in the list published in the preceding pages.]

MILCH COWS.

The Committe would remark that there was but one entry of 'Milch Cows open to all breeds," and to do justice to the exhibitor and the animal, we cheerfully awarded Mr. Brock the first premium of twenty dollars for his cow *Cherry Spot;* his experiments having been in accordance with the established rules of the Society.

Z. B. WAKEMAN, *Chairman.*

The following is Mr. Brock's statement:

Cherry Spot is aged 7 years; she is a grade Durham. On the first trial of ten days, she gave 56lbs of milk per day; on the second trial about 58lbs. First trial of ten days, her milk made 20lbs of butter; and on the second trial, 22lbs.

Cherry Spot was bred by Durrell & Owens, Mason county, Ky., sired by White Cloud, a thoroughbred bull; said to have been the sire of my celebrated cow, Giantess, that gave in 1854, in the month of June, over 80lbs of milk per day.

J. W. BROCK.

Mackinaw, Illinois, November 23, 1857.

FAT SHEEP.

This Committee take pleasure in expressing their decided preference for the lot of beautiful animals entered by A. B. McConnell, of Sangamon county. They possess those properties so much desired for the sheep by the prairie farmer. They have fine size, beauty and symmetry of form, are fat at an early age, bearing fleeces of superior texture.

DUMAS J. VAN DERIN, *Chairman.*

FLOWERS.

The Committee would respectfully recommend to the Executive Board that they grant the extra diplomas recommended by the Committee to Mr. Ellsworth and others. They would also recommend a special premium of a silver medal to Mr. J. T. Little, of Dixon, Illinois, for the show of Japan Lillies, the first ever exhibited at the State Fair. The Committee deem the exhibition of flowers very superior and highly creditable to the Society and the State. The display of Dahlias, in particular, they think, could not be rivalled in the West, and they trust the Executive Board will depart from its fixed rules, and award first premiums to Messrs. Ellsworth & Co., J. T. Little, and R. W. Hunt & Co., respectively. All of which is respectfully submitted.

CHARLES KENNICOTT, *Chairman.*

APPLES.

[The Committee gave the first premium for the best fifteen varieties of Apples, for all purposes, to A. Bryant, of Bureau county; and the second premium to A. R. Whitney, of Lee county; and for the best six varieties of Apples for winter, to A. Bryant, of Bureau county. The names of these Apples are given below.]

REPORT.

The Committee regret that there were no more entries made and submitted to them, of the best fifteen varieties and best six varieties for winter, as the list from which they were selected might have profitably been three or four times as large.

They also desire to call particular attention to this fact, in connection with their awards for the best fifteen varieties for general purposes, and the best six for winter—that the exhibitors themselves were confined to such varieties as they were enabled to keep and exhibit, and the Committee, in awarding, were restricted to the lists as handed in by the exhibitors. Hence, the task of selecting was a very embarrassing one, and the premium lists must not be considered as embracing either their own or the exhibitors's choice, the best fifteen or six varieties for cultivation.

F. K. PHŒNIX, *Chairman.*

LIST OF A. BRYANT'S APPLES.

BEST SIX VARIETIES FOR WINTER.

Jonathan,
Winesap,
Willow Twig,
Swaar,
Yellow Belle Fleur,
Domine.

To which should be added, to make fifteen varieties for all purposes:

Westfield Seek-no-further,
Talman Sweet,
Fameuse,
Rambo,
American Summer Pearmain,
Sweet Nonsuch,
Maiden's Blush,
Early Pennock,
Fulton.

LIST OF A. R. WHITNEY,

OF BEST FIFTEEN VARIETIES OF APPLES FOR ALL PURPOSES.

Sweet June,
Hocking,
Keswick Codling,
Fall Wine,
Early Pennock,
Rambo,
Fameuse,
Yellow Belle Fleur,
White Winter Pearmain,
Domine,
Swaar,
Whitney's Russett,
White Pippin,
Willow Twig,
Maiden's Blush.

WINES.

The Committee on Wines report: Notwithstanding the very great success that has attended the cultivation of the Grape in portions of this State, and the many attempts that have been made at different places within her borders to manufacture a refreshing beverage from the juice of this fruit—one which invigorates, but, when properly used, does not intoxicate—notwithstanding the liberal premiums which have been offered for samples of Wines—we regret to say we found very little competition.

In the first class—Catawba Wines—there was not a single entry. This is the more to be regretted, because the Catawba grape is largely cultivated in some parts of the State for the purpose of wine making, and is, indeed, generally believed to be the best adapted for this purpose of any of the grapes that have been experimented with. So decidedly is this the case, that in your premium list the product of this vine is set apart as a separate class, and with the highest premiums.

In the next department—"other native grapes"—a field is open for competition among other varieties, into which two competitors have entered with great diffidence. The Isabella, and the wild grape of Illinois, were both presented. They neither received sufficient commendation to entitle them to the premium. The Isabella was not clear, and had evidently been sweetened so as to injure it. The wine from the wild grape was not perfected, containing a great deal of deposit, that stained the glass. It has some acescence, but is not soured, and the astringency, though not palatable to the committee, was admired by one member, who voted it to be wine of medium quality and of great promise.

The display of Currant Wines was very creditable. These wines are avowedly mixtures of juice, sugar and water, to which, also, alcohol, in some form, is too often added. By these means a vinous preparation is made, which suits many palates, especially those which have been educated to admire the brandied wines of Madeira, the Sherries &c. We are aware that, as the ladies generally prepare this kind of wine, we may be treading upon delicate ground, but cannot forbear expressing our belief, that all wines should have as low a percentage of spirits in them as shall be absolutely necessary to preserve them from the acetous change

when they are properly protected from atmospheric influences. Too much sugar is generally added, which remains unchanged, making the preparation too sweet for some palates; while that which undergoes the change into alcohol produces too large a proportion of that ingredient for a light wine; the free sugar gives the wine a muscovado flavor.

The first premium is awarded to Mrs. J. C. Schnebly, of Peoria, whose wine was not so highly sweetened as some others; the second premium to H. Hancock, of Tazewell county. This latter article, however, had a strong muscovado flavor, from excess of sugar. The other samples entered in this class were all clear, being well fined.

In the class of wines from "other fruits or vegetables," your committee will not here question the propriety of calling such liquids wines—though they have their own doubts upon the matter. Among the entries were found Rhubarb Wine and Elderberry Wine. Of the former, a sample prepared by Mrs. S. Francis, of Springfield, was fine and clear, and was declared to be decidedly the best; but it did not come up to the standard of excellence which had been laid down by the committee as necessary to entitle the article to a premium. This sample, however, on account of its being fine, was so superior to others in competition that we recommend an "honorable mention."

The Elderberry Wine was not in a good state for exhibition.

JOHN A. WARDER, *Chairman.*

NATURAL HISTORY, GEOLOGY, ETC.

S. FRANCIS, *Corresponding Secretary Illinois State Agricultural Society:*

According to appointment, I attended the State Fair at Peoria, which occupied the 21st and 25th of September, 1857.

The duties of my superintendency were not burthensome, the number of entries in that department being small. This, however, is nothing extraordinary. The scientific interest felt in the country has seldom been called forth on occasions of this kind. I may here remark that the fear of confiscation has kept the best specimens in Geology and Mineralogy from being presented—most men of science attaching a far higher value to their specimens than to even the highest awards of a State Fair.

The number of entries, however, was quite respectable, and many of them were of great value. An admirable collection was presented "for exhibition" by Mr. Freeman, of La Salle county. Had this been regularly entered for competition, it would have taken several of the best premiums. As it was, however, it gave intimation of the mineral resources of our State, and did great credit to the zeal and scientific enterprise of the gentleman who had, with so much labor and care, collected and arranged it.

Of native woods, there were two collections presented, one of which contained ninety-two varieties. In this class, however, I think there has been less interest, hitherto, than its importance demands. The Botany of the State seems not yet to have awakened any general interest; though I was pleased to find a few zealous devotees of this branch of science, from whose labors we have much to expect.

The lime which was entered was of a superior quality; though it was matter of regret that none came from any other point than Alton. The impression seems to have gotten abroad that the stone of this vicinity (Alton) is superior to that of any other part of the State, or of the Mississippi Valley. Of the correctness of this impression I have much doubt, as the same rock, in respect of geological position, may be found in many other parts, and the examinations have not yet been sufficiently accurate to justify such a conclusion. It is sincerely hoped that before the next meeting of your Society, there will be a general effort, in all parts of the State, to present specimens of lime.

People should not be deterred by the high reputation of the Alton lime, which, although it excel in whiteness, may not be a whit superior, for building purposes, to the darker qualities which are known to have been produced in several sections of the State.

The coal of Illinois must necessarily have been a subject of the deepest interest, and although there were few districts represented, there was enough to stimulate the pride of every citizen of Illinois.

The coal of our State holds a place only second in importance to its agricultural wealth. The Illinois coal field is bounded by an outline, starting, say at the mouth of the Wabash, and thence following the Ohio and Mississippi Rivers to the mouth of Rock River, near Rock Island; thence east, nearly by Joliet, through the northern part of Vermilion county, and thence south to the beginning. Within this line, all may be said to be a coal field Of course, within this field there are many places where there is no coal; but these are only the "exceptions to the rule," and no one has a right to say that there is not coal at any point within this outline, until he is certain of having touched the carboniferous rock and failed to find coal. In some places it is doubtless very deep; though in no place is it too deep to be worked when necessity or convenience shall have stimulated enterprise. No one has yet realized the half of the applications of steam, as a motive power; and the time is not far distant when coal will be the only fuel employed in the generation of steam. Every new bed of coal is, then, to be hailed with profound satisfaction, and cherished as a real boon to the country. The specimens exhibited at Peoria were all of a quality eminently capable of usefulness; though that from La Salle would seem to justify the opinion that in that region is a sort of central point in the great coal field.

But our surprise was greatest on examining the specimens of salt from the Equality salt works of Gallatin county, near Shawneetown. Of the quality of this salt, and its capacities for preserving meats, we had no means of satisfying ourselves other than by its general appearance, and the testimony of persons who have used it. The impression we received was that it was vastly superior to the salt of the Kanawha Salines; quite equal to the Saline salt of New York, and but little inferior to the Turk's Island. If this impression be nearly correct, then the salt of Gallatin county is destined to exert an immense influence on the interests of our Western country.

The annual consumption of salt in the packing business is already immense, and must increase every year, as the agricultural resources of the State are developed; and if the annual expenditures for this article can be retained, it must tell materially on the finances of Illinois. Col. A. McAllen informed me that one single well, of eleven hundred feet deep, has been, for some months, yielding one thousand bushels of salt per day, all of which has been readily sold at thirty-five cents per bushel. But he assured me that should the price of salt fall to one-half of that price, they could, nevertheless, continue the business with success and profit. This seems to preclude the possibility of failure to the enterprise. We feel assured that it will now go on, and prove a new source of wealth to the State.

Many articles of minor importance were entered, some of which possessed much value, but which I have not time nor space to notice. Most of them will be found by reference to the very judicious reports of the committees.

In conclusion, I beg leave to tender you my congratulations on the results of your recent exhibition. Exhibitions of this nature are certainly calculated to stimulate enterprise, awaken a generous and healthy emulation, and call forth the resources of our State. No one can have attended your late exhibition without being astonished at the new evidence of "hidden treasure," which must be brought to light in due time, nor have returned home without a loftier pride in his "Prairie State."

Yours truly,

S. Y. McMASTERS,

Superintendent of Department of Natural History, Geology, Etc.

FARMS AND NURSERIES.

REPORT OF THE COMMITTEE ON FARMS.

GREENVILLE, January, 1858.

S. FRANCIS, *Corresponding Secretary Illinois State Agricultural Society:*

Dear Sir: It was one principal object of the committee, in making their report, to impress upon the minds of our farmers, and fellow-citizens at large, a correct impression of the paramount

value and importance of agricultural associations—embracing, as they do, the whole field of useful labor. Agriculture is no longer a rude mangling of the earth's surface, to obtain a scanty and uncertain supply of the coarsest vegetable productions, but it has become a science—a science, too, which rewards industry, enterprise and skill, and at the same time exhibits problems in every department of its diversified interests, which demand the best and most thorough application of intellectual, no less than of physical, ability to solve. The connection of agriculture with manual labor is intimate. Without labor the physical man can never acquire and maintain his natural strength, and vigor of muscle. If the physical man is impaired, the intellect must suffer; it is shorn of a portion of its usefulness and power, and rendered positively incapable of justly appreciating the importance and true dignity of discharging, in a correct and skillful manner, the duties of life.

The institution of State and County Agricultural Societies in Illinois has been eminently successful, and their salutary influence in creating a new interest in the progress of agricultural improvement, and the mechanic arts, can scarcely be over-rated; whilst the invaluable effect of this same good influence is already felt, and will continually augment, by promoting diligent inquiry into every useful subject of general interest to mankind. The same influences induce harmony and united action for the common welfare, improves the moral and social character of every individual, and gives the best assurance that human sagacity can devise, of the continued purity and permanence of free institutions among men.

With very sincere respect, your friend,

WILLIAM S. WAIT.

The Committee on Farms have awarded the premiums offered by the Society for the best improved and most highly cultivated Farms and Nurseries, with perfect unanimity, and with entire satisfaction as to the merit of the competitors.

The entries of Farms, and of Nurseries, were, perhaps, less numerous than the friends of agricultural improvement might desire, yet sufficiently so for the time that the awarding committee could conveniently appropriate to their examination.

The agricultural development of our State is yet in its infancy, and whatever may be the intelligence and industry of the Illinois farmer, the time and the facilities for agricultural improvement which have been enjoyed by our brethren in the New England and Middle States of the Union, are unknown here. It cannot, therefore, be expected that our farmers, however industrious and anxious to excel in all that pertains to good husbandry, should be prepared to compete with the highly cultivated farms of the older States, or that they should feel disposed to invite examination, whilst many of their projected improvements were yet incomplete.

With a knowledge of these facts, it may readily be apprehended that several of the farms offered for examination were entered more with the disinterested purpose of assisting to carry out the views of the Society, than in the expectation of a premium. And it is a fact highly creditable to the Illinois farmers, and indicative of present and future progress, that your committee were every where greeted with a hearty welcome, and received with marked attention and respect, as the agents of the State Agricultural Society; thus showing, in a manner not to be misunderstood, a just and hearty appreciation of the objects of the institution, and a warm and disinterested desire to sustain and render its action effective.

In an exploration, comprising nearly a thousand miles in extent, the farms all presented the appearance of successful cultivation, with the most satisfactory evidence of thrift, and the design of solid and permanent improvement. The committee would fail to do justice to their own feelings, did they not express the high satisfaction which they experienced in finding a manly and inteligent spirit of enterprise universally prevalent amongst the farmers of Illinois. Those who have been and still are successful in their improvements, are animated with the hope and with the determination of continued progress, whilst the most liberal and disinterested feelings prevailed for the encouragement of agricultural enterprise throughout the State. With this desire for more knowledge, and readiness to impart the best results of their own experience, we may rest satisfied in the assurance that the farmers of Illinois respond heartily to the call made upon them by their State and county societies, and that their individual effort will unite most cordially with the associated action of these institutions in effecting the successful accomplishment of every judicious enterprise which may be undertaken to promote the progress of scientific and practical farming.

Any attempt to define the best and most profitable system of agricultural management would be out of place in this report, did its limits permit, and were your committee prepared for the task; yet it may be their duty to embrace this occasion to recommend to every farmer, the valuable suggestions on many of the most important subjects connected with agriculture, that are to be found in the Transactions of the Society. Of these Transactions, two volumes are already published, prepared by Dr. Kennicott, to whose able, judicious and disinterested labors in behalf of agricultural improvement, the farmers of Illinois are greatly indebted. In this connection the committee have the gratification to state, that at their request, Dr. Kennicott has furnished them with an interesting statement of his fruit growing and nursery experience in the northern part of Illinois, running back more than twenty years, when the settlement of that region was in its infancy, with the privilege of making such use of it as they may choose. For this communication, embracing facts so valuable to all nursery-

men and fruit growers, and to every farmer in Illinois, the committee return their grateful and hearty acknowledgments, and make the best use of it in their power to render, by giving it to the public entire, as accompanying this report.

One of the more obvious needs in our prairie country, is the means of fencing. In all new settlements, where timber is abundant, the rail fence is universal, and will hereafter continue in general use for the large inclosures, until rail timber is exhausted. By a large portion of intelligent farmers the Osage orange hedge is considered the best and cheapest material that is available in Illinois, for a permanent fence. The experience of your committee, in their recent examination, fully confirms this decision. That this hedge requires constant care, and in the hands of a slovenly farmer might prove a nuisance under long continued neglect, may be true. Yet can this possible fact be urged against the hedge, when it is reflected that the crops, the cattle, the agricultural implements, the buildings, and everything connected with the business of the farm, demand unremitting care, or they deteriorate and become profitless? A neglected hedge is undoubtedly, to a certain extent, a nuisance, and so is also a neglected field of corn.

The wire fence is strongly recommended by some practical farmers, and no less strongly objected to by others. It is often convenient or necessary so to vary the system of culture upon a farm as to render it expedient to change a line of fence. This change of inclosure is, to a certain extent, practiced on every farm, and where such change is required, the wire fence may be found the most convenient. Next to the rail fence, which predominates, the most prevailing kind in the districts visited by the committe, is the common plank fence. About the dwelling house, garden, stable, stock-yard, etc., the plank fence is decidedly the most convenient, and preferred to all others now in use.

A subject which the committee esteem of sufficient importance to recommend strongly to the attention of farmers, is that of artificial pools or ponds of water for stock. They have long been in use in some of the agricultural districts of England; but this method of providing stock water is not generally understood here. In England these ponds are carefully excavated and the bottoms furnished with a coating of cement, which serves to render the water more pure, and in some degree preserve the pond from filling up. They are, however, successfully used without any coating for the bottom; the subsoil, such as is usually found in Illinois, answering every useful purpose. On the farm of J. M. Blackburn, near Paris, Edgar county, comprising some thirteen hundred acres, are five of these artificial ponds for the supply of stock-water, which, as Mr. Blackburn states, furnish water for his numerous stock in abundance throughout the driest seasons. One of these ponds, which was dug out with the aid of a common sheet iron scraper, at a cost not exceeding twelve or fifteen dollars, is so located as to occupy the corner of four distinct stock lots, affording

an ample supply for all in the driest seasons. Two or three of his ponds were made by throwing a dam of earth across a ravine or gully, which are equally effective in affording an unfailing supply for his numerous stock.

In many situations where a supply of stock water by other means is difficult to be procured, these ponds, which are easily prepared, and afford an unfailing supply, must prove exceedingly valuable. Experience shows a very essential fact, that the water thus supplied is entirely palatable and wholesome for every description of stock. Some extensive stock growers pronouncing it to be equal, and others even superior to that drawn fresh from the well.

The success which has attended the cultivation of the Chinese Sugar Cane, is highly encouraging. Excellent syrup has been made from this cane, not only in Illinois, but in all parts of the United States. Every new trial of its properties, results in a new test of its merit. That sugar could be produced from the expressed juice of this plant, was at one time doubted, but subsequent and very recent experiments from scientific and satisfactory sources, have set this question at rest. The public may be assured that *it will readily granulate and yield pure sugar.* And it may be an object worthy the attention of the Society to encourage the invention of economical apparatus and method of using it, by which every farmer could profitably and conveniently manufacture the sugar and molasses required for his own family consumption.

The disposition to undertake the business of farming on a scale beyond their means, is a general characteristic of western farmers. We all feel that it is bad economy, yet all persist in the practice. It is, however, well to point out the evil, although an effectual reform may scarcely be hoped for until a more dense population compels it. That time will soon arrive, and we may not be unmindful of the fact that the same density of population which limits the practical farmer, and reduces the number of his acres to a quantity more suitable for thorough cultivation, will bring with it also that inequality of possession, and those social distinctions which are invariably found in older settlements and more populous districts, wherever the footsteps of man can be traced.

It is inherent in the constitution of man, and an important ingredient of human happiness, that we should think well of ourselves, of our own family and friends, of our own nation, and of our own State and the district of country in which we live. This position conceded, we may be pardoned for the opinion that no portion of the earth's surface is more susceptible of profitable cultivation than our own State of Illinois, and that it is inhabited by a race of men who have no superiors in useful enterprise, industry and intelligence. This opinion is not a mere assumption growing out of a too flattering conception of indigenous merit, but founded upon facts, with which it may be both practically useful and satisfactory, that every western farmer should be familiar.

The United States constitutes the first government of intelligent freemen that the world has ever known. So far as we may judge from the records of history, the ancient republics were composed of masses, who were in reality what a late distinguished American statesman declared his own fellow-countrymen to be, a mere rabble. They were led by the demagogue of the hour, who was in fact a despot, or controlled by an oligarchy, that was irresponsible to the people. Under all modern and existing governments but our own, neither farmers, mechanics, nor laboring men of any description, enjoy political privileges, or social consideration. Throughout Europe it is but recently that those who cultivate the soil, have emerged in any degree from the condition of vassalage or serfdom, and to this day in the land of our fathers, the men who cultivate the soil, rank as an inferior grade of society, with the best of whom no "*gentleman*" could ever think of associating on terms of equality. This universal degradation of labor, which pervades the old country, was at once abjured by the early colonists who founded and gave the moral tone to this great nation. They came to the western continent, not for wealth or conquest, but for personal freedom and liberty of conscience. They found no difficulty in securing homes in a region where land was abundant and unoccupied. Every farmer became an independent proprietor, and cultivated the soil by the labor of his own hands. *It was thus that the respectability of labor was first established and acknowledged by a civilized people!* The man who held the plow was no longer the serf but the SOVEREIGN, who guided the affairs of state by agents of his own choice.

This event has not been dwelt upon as its importance demands. The fact that the founders of this great republic were the first to establish the respectability of manual labor, and not only that, but its priority in usefulness, and consequently in true dignity and importance over every other employment of man. But it may be asked by some, Is this fact established? Most assuredly it is, in the heads and hearts of all intelligent and practical men. No question in morals is more clear. This great truth, so important to the rising generation of freemen, may indeed be doubted by such as have never had their nerves steadied nor their hearts mellowed, by one month or even one day spent in solid hard work, whilst the sentiment will be scouted by those whose lives have been spent in schemes to escape from that wise and holy decree—"in the sweat of thy face shalt thou eat bread." Yet the great fact remains unshaken; and it is an indispensable element of free institutions. Degrade labor, and the mass of the people may have a parchment show of political liberty, but they are socially and practically slaves.

Natural causes induce emigration, which is greatly accelerated by the cheap and fertile lands of the west; and as a general rule, the more resolute and enterprising of the parent stock are the pioneers. The population of Illinois, like that of the whole northern portion of the Mississippi Valley, is composed of a due proportion

of emigrants from nearly every State in the Union, and from Europe. They come prepared to cast off what may yet remain of early prejudices, and to harmonize and amalgamate with neighbors who are thrown together from the four quarters of the earth. In a community thus constituted, where every man owns and cultivates the soil he occupies, the manly virtues are brought out, and the best faculties of the mind developed. There is no foothold for an aristocratic sentiment.

A just and full consideration of these facts may be deemed entirely sufficient to fortify and at least render probable our position, that the population of the new States and Territories is composed of a race of men who have no superiors in useful industry, enterprise and intelligence.

No people on earth can be more favorably situated to enjoy the best gifts of Providence, than those who now occupy the Valley of the Mississippi. The evils that attend great riches and excessive poverty, the monopoly and exaction of associated wealth, aided by existing laws, and aggravated by unjust legislation, are as yet but partially felt in the great west. Yet many of us have smarted under these inflictions in some of the older States of the Union, who have found at least a present refuge from them here.

What subject then should be more interesting to farmers, than some practical views of their political and social relations which may enable them to guard against evils which have hitherto afflicted all human governments. Since, under whatever pretences set up, all have alike subsided into organized systems by which the pride and luxury of the few may be sustained in idleness upon the degraded labor of the masses of the people.

To guard against such evils from which no people have hitherto escaped, is it not necessary that the farmers, the mechanics, and those who perform manual labor, and who compose seven eighths of the population of an agricultural State, should give a rigid attention to the character and conduct of their public agents, and to the latent tendencies of legislation.

Professional men, capitalists, and men engaged in trade or manufactures, associate to sustain their respective interests. Of this we have no disposition to complain; but should not the plainest dictates of common sense teach us that the producing classes should also associate for the same general purposes?

It is therefore with heartfelt satisfaction that we congratulate our fellow-citizens that this much desired association of labor, promises to be most effectually accomplished by the establishment of agricultural societies, which are now extending their beneficent and salutary influence throughout every State and Territory of the nation. Not only the farmer, but the mechanic, the manufacturer, the artist, and those engaged in every useful occupation of life are thus united in the same general objects of mutual improvement:—For agricultural societies have this pre-eminent excellence above all other associations, they are alike open and free to all. Every

good citizen, whatever may be his walk in life, is cordially invited to unite in promoting the great objects of the association, and welcomed to an equal participation in its advantages.

Thus united, with the great object of promoting general improvement before them, the increasing intelligence which must prevail, and the fresh interest awakened on all subjects relating to the common welfare, cannot fail to induce that rigid supervision of men and measures, which is equally necessary to guard against abuse, and to provide for the best action to promote useful progress and reform.

Having had no connection whatever with the original institution, nor with its subsequent government, the committee may be permitted to say, that the State Agricultural Society of Illinois, during its brief existence, has been successful in its efforts to elevate the character, increase the influence, and promote the improvement of agriculture and the mechanic arts, throughout the State. The people universally appreciate its merit and importance, and are grateful to those intelligent and disinterested men, who have freely bestowed both time and means to secure this salutary result.

In behalf of the great body of their fellow-citizens, with whom they are associated as practical and working farmers, the committee will not be deemed presumptuous in offering their grateful thanks to the officers of the State Agricultural Society, for their unremitting, judicious, and successful efforts in promoting the useful and beneficient objects of the institution.

WILLIAM S. WAIT,
SILAS H. ELLIOT,
Committee.

VALUABLE NOTES ON FRUIT CULTURE IN NORTHERN ILLINOIS.

Furnished at the particular request of the Committee on Farms, by John A. Kennicott, M. D.

THE GROVE, WEST NORTHFIELD, Cook County, Ill.

I commenced tree planting within a month after removing to Cook county, in 1836, but did not do much till after the land sales—say in 1841—when we put out the most of our fruit orchard, and laid the foundation of our present large share of ornamental trees and shrubbery, flowers, &c. Our nursery of fruit trees, for sale, has been in operation fourteen years, or thereabouts. But we sold trees, &c., from the first—purchasing most of our stock in Buffalo, New York. During these fourteen years, the retail price of grafted apple trees, of from four to six years old, selected, has not varied much from $18 to $20 per hundred, or twenty to twenty-five cents each, in smaller numbers, at the nursery; and about $10 to $12 50 per hundred have been the rates for the smallest sizes, fit to set in orchards—say well-grown three year old root grafts, and two year old buds—or, the second

sizes, or those a year or two older. From $75 to $150 per thousand, according to age and selection, have been the wholesale rates of these same trees; and $100 per thousand may be set down as the present price of the best nursery sizes—say four years old—all through the North-West. At these rates, the profit of an honest nurseryman is very small indeed; though handsome looking "whips" may be raised at the price, and give the grower a handsome profit.

Pears, Cherries, Plums, Quinces, Peaches, &c., have not paid the cost of growing them in Northern Illinois nurseries, as a general rule; though I have known some marked exceptions. And the same may be said of much other nursery stock, on which our Eastern friends make a large profit.

The Pear stock is liable to "leaf blight," and the Quince stock, for the Pear, is very apt to kill below the bud, and the worked Pear, itself, winter-kills or blights so badly as to discourage propagation.

The Heart and Bigarreau Cherries are sure to kill out, sooner or later; and it is hard to tell whether the summer or the winter of Illinois does the mischief. Plum trees often winter-kill in the nursery, and leaf-blight in both orchard and nursery; and every one knows that the Peach, Nectarine and Apricot are scarcely safe, even south of the centre of our State; and up this way they are killed to the ground every five or six years, at the best. We have had three Peach orchards killed within the last eighteen years—the last one containing over one thousand bearing trees. Except the Cherry, which has never borne well in this region, (not even the hardy sorts,) I am of opinion that healthy trees, once in bearing, yield as large and fine crops of fruit in Illinois as in any other State of the Union, other things being equal. But, unfortunately, all the bearing trees of an orchard are seldom found in good health and profitable condition. Unhealthy trees are not unfrequently the rule, and the healthy and good bearers the exception. At the North, bark lice bear the blame when an Apple orchard fails; and heat, cold, or some mysterious blight, is chargeable, (or at least charged,) with the destruction of other fruit trees. But were I to designate any one deleterious agency, it would be water. In my opinion, "wet feet," rather than frozen tops or summer heat, are at the bottom of more than half the losses in both nursery and orchard, so far as I have observed, in Northern Illinois; and the remedy is thorough drainage. Of course, there are unhealthy and unprofitable trees to be found growing over, or in, sand and gravel, where water never accumulates; but in these cases the natural poverty of such soils will often account for the condition of the trees.

As an almost invariable rule, the soil that contains the most alumina, (clay,) with the usual elements of a good "corn soil," is the best for fruit; or, in other words, our best wheat soils are, nine times out of ten, our best fruit soils.

It is rare, indeed, that a good soil is found, containing too much clay for either wheat or fruit. The Quince, Plum, Pear and Cherry delight in a dry, sandy clay, provided it is rich enough in other matters; and the Apple will thrive where the Pear will, and the Peach where the Cherry can be grown. The Grape must have a dry clay soil, containing plenty of lime. Grapes do not succeed here, in our grounds.

Of the varieties of the Apple, it is hard to say which are best. It is very certain that the best fruit is not always the most profitable. I do not yet feel justified in making out a list of Apples for Illinois. So far as Pears are concerned, I have less hesitation. Here, we have found the Buffum, Belle Lucrative, Beurre Diel, Bon Chretien, Fondance, Flemish Beauty, and perhaps Seckel, perfectly hardy, and uniformly good bearers. The Bartlett is also a good bearer, but not quite so hardy as some others.

We do not consider Dwarf Pears of any account, except in small city gardens. We have lost more than 20,000 of them in the Nursery, and perhaps 300 set out for bearing in garden and orchard, and have never had a dozen bear well, though many have borne a little.

We have had two or three large Plum crops in the last fourteen or fifteen years. But all our first and second plantings died out years ago; of a third planting in orchard, perhaps one in six or eight is now alive. But as yet no fruit—the curculio stinging the whole—and the last two winters entirely used up three-fourths of our large stock of nursery Plums, and top-killed nearly the whole of them. The foreign varieties, as a rule, suffered most. North of us, at Racine and Milwaukee, Wisconsin, the Plum does not suffer so badly, and immense crops are gathered. Dr. Hay, of Racine, writes me that he gathered about sixty bushels, last season, from his small garden lot. So you see it is not the extreme of cold that kills the Plum. The soil at Racine is sufficiently clayey, and naturally well drained, which will account for the difference. Good Plum crops are gathered at Alton, Ill., on similar soil.

We have never gathered a crop of Cherries here, though we have had hundreds of trees attain to a bearing age and size. Not even have the Dukes and Morellos given satisfaction in our soil; though in a proper soil, we have heard of some fair crops in Illinois.

Whenever, and wherever, in this region, the Peach tree has flowered, we have never failed of a crop proportioned to the blossoming; and I believe I have already intimated that our standard Pear trees, that have survived in good health, have borne as well as the Apple, and I think better. But out of several hundreds in orchard—many set sixteen years, and most six to ten years—we have not over fifty trees alive, and perhaps not twenty in perfect health. The Buffum is the only sort that has never been injured in our grounds.

Our Quinces, Apricots, Almonds and Nectarines were all killed with our Peach trees, two years ago. We also lost a good many large Apple trees that winter, but not so many as our neighbors.

Of small fruits, the Currants and Houghton Gooseberries have never failed to give abundant satisfaction. All other Gooseberries have mildewed here, though ripening beautifully within twenty miles of us, in the Chicago gardens. Raspberries and Blackberries are in the same category; though I do not think either of these fruits fitted to our hot and dry summers.

We have not succeeded with Grapes; though in proper situations, with the right kind of soil, most sorts succeed admirably, a little south, and some even north of here.

Last winter we had over two thousand two year old vines, of Isabella and Catawba, killed, "root and branch," in our nursery. And we also lost two squares of Dwarf Pears, and perhaps 30,000 seedling Apple trees, two years old, set in rows for budding. Indeed, the winter of 1856–57 was much harder on nursery stock than the one previous. And since we commenced the nursery business, I think it is safe to say that we have lost, in various ways, many more trees and plants than we have sold.

At one time we had about forty acres well covered with trees and plants, while at present our grounds are sadly disfigured with stumps of dead trees and "remnants" of living stock; though some recent plantations are remarkably healthy, and our fine stock of noble Conifers—such as Pines, Spruces, Arbor Vitæs, Balsam Firs, Larches, &c.—is our pride, and pays us much better than our fruit trees, on sale.

Our Apple orchards have always been profitable, and we have made more money on our crops of Peaches, even, than we ever did by selling Peach trees.

As you may have perceived when here, we pay great attention to flowering plants, and especially hardy Roses and other desirable shrubbery; and from these, and other "little things," come the chief profits of our nursery business; though we have sold a vast bulk of fruit trees in fourteen years, and have some hundreds of thousands, of all sorts and sizes, now on hand. And of all species and varieties of trees and perennial plants, including shrubbery, of course, we now count about 1,500 names.

But, for all practical purposes, the list may be reduced to 500; and we are reducing rather than extending our list of named varieties, though we annually add some new ones.

Now, as I have tried to be candid, I will add, that we are well assured of having sent out many trees, and some other things, under wrong names—not more than others of the brotherhood of nurserymen, perhaps, nor quite so large a proportion as some tree peddlers, doubtless; still, owing to our dependence on the accuracy of Eastern friends, whose errors we did not detect till too late, and perhaps, occasionally, our own mistakes, we have done our full share in the way of sending off nursery stock not "true

to name." But our consolation is, that we have never sold a great deal of trash, any way. Most of our wrongly named varieties, of both fruits and flowers, have proved good. And if we remain in the business long enough, we shall get the names right at last.

From all this you will please infer—1st, that we know the nursery business to be less profitable than raising fruit; though it must be admitted that soil, climate and situation are all rather unfavorable here, compared with some other situations. But were it to do over again, and I could have my choice of the whole State, I would stick to farming and fruit growing, rather than propagate fruit trees, to any great extent, for market; though I would still raise my own, perhaps, and enough to supply the demand of my neighborhood, but not a tree for shipment. We know that with the same capital, and less labor, care and hard-earned intelligence, a man can clear more money by good farming, and twice as much by any other branch of trade, than "the trade" in trees.

And yet the business is most delightful, and many contrive to live by it, and a very few make money, but oftener by the rise of their nursery grounds than the profits on their nursery trees.

Your friend,

JOHN A. KENNICOTT.

STATEMENTS OF FIELD CROPS.

PREMIUM CROP OF SPRING WHEAT.

Hugh Huts, of St. Charles, Kane county, took the premium, which was the Manny Reaper, donated by Messrs. Talcott, Emerson & Co., of Rockford, for that purpose. The soil on which this wheat was raised was low, level prairie, rather inclined to fall west and north, and of a moist nature. The quantity of seed put in with the drill was seventy-five bushels, of the Tea variety, and the amount of wheat raised on the land, of which there were forty and three-fourth acres, according to the legal weight per bushel, was thirteen hundred and fifty-seven bushels.

PREMIUM CROP OF FALL WHEAT.

This premium, for best five acres of fall wheat, was taken by John Anderson, of Flat Prairie, Randolph county. The land has a black, loamy soil, and has been in cultivation for the last thirteen years, and has produced sixteen crops. I always put in corn

as soon as the wheat is gathered for winter feed for cattle. The land was in oats the last season. As soon as the oats were gathered I had it plowed about 3 or 4 inches deep; then I gave it a light dressing of manure; then I had it plowed about eight or nine inches deep; then I went over it with the cultivator; which left the ground all in little furrows. I then sowed the wheat broadcast, giving the land one and a half bushels per acre, and then harrowed it across the furrows. The wheat was sown about the 10th of September, and harvested on the 10th of July. The produce on five acres of land was two hundred and forty bushels and forty pounds.

PREMIUM CROP OF SPRING WHEAT.

Harrison Hancock, of Tazewell county, took the premium for the best five acres of spring wheat—35 bushels per acre. He thus describes his process for raising wheat: "First, I plow my ground 7 or 8 inches deep. I drill in my seed. I use one bushel and a half to the acre. I sow my wheat about the 25th of March. The last spring I sowed three kinds of spring wheat: Italian, China or Tea and Canada Club. The Club, though struck with rust so as to shrink the grain, yielded better than the Italian. The China is an excellent wheat, better than any other I am acquainted with. The drill is the best instrument to sow wheat with. I can sow twenty acres with the drill quicker than ten the old way of getting it in, and the land will produce three or four bushels to the acre more when the wheat is drilled in than when sown broadcast."

PREMIUM FOR BEST CROP OF CORN.

Harrison Hancock, of Tazewell county, took the premium for the best crop of corn—122 bushels, 2 lbs., per acre. The following is his mode of cultivating this crop. He says: "If I want to get a good crop of corn, I subsoil my ground to the depth of 13 inches. I lay off my ground with a corn-masher, made for that business, into checks of three feet three inches square. I plant, if possible, between the 15th and 20th of May. The corn is dropped by hand and covered with the hoe. I plant the white flint. It is rather on the gourd seed order. When my corn is planted I roll the ground so as to put it in good order for cultivation. I harrow my corn as soon as I can see a row across the land. I take a bar-plow next. I run the bar as close to the corn as I can each way. The next time I use the shovel-plow, each way, throwing the earth to the corn. I hoe my corn once. I give a few days' space between each plowing. My land is a clay loam. It is a good soil for most

kinds of grain. I use about eight quarts of seed corn to the acre. If the corn comes up too thick, I thin it to three and four stalks to the hill."

FIRST PREMIUM FOR THE BEST OATS.

Harrison Hancock, of Tazewell county, took the first premium for oats, which produced 95 bushels on the acre. In describing the manner of cultivating oats, he says, that he prepares his ground for oats as he does for wheat. He puts his seed in with a drill. He believes that drilled oats will produce ten bushels to the acre more than if sown broadcast. The ground on which his premium crop was raised was plowed the previous fall.

SECOND PREMIUM FOR OATS.

Daniel Kelly, of Wheaton, DuPage county, took the second premium for oats—88½ bushels per acre. Mr. Kelly says that the land on which his oats were raised was prairie, corn stubble. He manured the land for corn the year previous, putting upon it about twenty loads to the acre. Last April the stubble was harrowed well; then a little less than two bushels of seed were sown to the acre; harrowed and cross harrowed the land after it was sown. As soon as the ground was fit and the oats high enough, he turned his sheep upon the oat field and left them upon it until his neighbors' oats were six inches high, while his were fed off close to the ground. The season being wet when the crop matured, some of the oats fell to the ground, besides many were wasted in harvesting. They were cut with Wright's self-raking machine. I did not feed them with my sheep long enough for the season. The oats averaged 88½ bushels to the acre, and would have yielded much more if all could have been saved.

FIRST PREMIUM FOR WHITE BEANS.

Harrison Hancock, of Tazewell county, deserved the first premium for white beans—21 bushels, 20 lbs., to the half acre. Mr. Hancock says that his beans were planted on new ground, the rows laid off only one way and dropped in hills say 12 inches apart. They were plowed once and hoed once. He used half a bushel of seed to the acre. If they come up too thick he thins them out, leaving three and four plants in a hill. The beans are known as Navy beans. They are white and twice as large as the small sized white bean.

SECOND PREMIUM FOR WHITE BEANS.

Levi Mason, of Bureau county, secured the second premium for white beans—13½ bushels to the half acre. In regard to the cultivation, he states that he "plowed the ground last fall (1856) and again last spring, in the latter part of May. The 8th of June he commenced marking off the ground by drawing a chain across, making the marks about twenty inches apart. He then took one of Wakefield's hand corn planters and guaged it so as to drop six and seven beans in a hill, and planted the hills about eight inches apart in the row and finished the next day, the 9th of June. He hoed them twice, which was all he did to them before harvesting them. When they were ripe, they were pulled and threshed and the weight of the beans was seven hundred and eighty-three pounds.

The quantity of seed used was 10½ quarts, weighing about 21 pounds, and were of the small white variety. The beans was the third crop raised upon the ground since it was broken up. The land is a light prairie soil, with a considerable mixture of sand, descending towards the north. The quantity of ground was half an acre.

PREMIUM FOR POTATOES.

Harrison Hancock, of Tazewell county, took the premium for the best yield of potatoes—250 bushels per half acre. Mr. Hancock subsoiled his potatoe ground, laid his land off three feet wide, in straight rows, and dropped his potatoes in drills, say twenty inches apart in the row. For winter potatoes, he plants on the 15th of June. He hoes them once, and plows them thrice; and, like corn, the plants should be thinned to three and four in a hill. If seed potatoes are large they should be cut in pieces and only one piece put in a hill. My potatoes are what are called the Mohawk Blues and Neshannocks. They are good potatoes.

PREMIUM FOR TIMOTHY SEED.

Harrison Hancock, of Tazewell county, obtained the premium for timothy seed. This is his mode of cultivation: He sows twelve quarts of pure seed on an acre of land. After taking off the first crop, in order to get a heavy crop, he dresses the meadow with fine manure, which pays well. It does timothy good to harrow the ground every spring.

PREMIUM FOR BLUE GRASS SEED.

This was awarded to Harrison Hancock, of Tazewell county. He says that blue grass should be cultivated in the same manner as timothy, when it will produce bountifully. He recommends the sowing of about one half bushel of seed to the acre. After the ground is thoroughly swarded, it should be harrowed early in the spring, which will insure a good crop.

BEST CROP OF ONIONS.

A. B. Rumsey, of Kankakee county, took the premium for the best fourth of an acre of onions—70 bushels. The onions were of the "Weathersfield large red" variety. The seed was sown early, on ground nicely prepared, and which had been broken up some eighteen months. The seed was planted in rows about a foot apart and sown by a hand drill; the onions were thinned out, so as to give them room to grow to a good size. The onions were hoed three times and the weeds pulled from the rows.

To secure a good crop of onions, it is necessary that the ground should be a light loam, that the onions should be kept free from weeds, and that the ground should be stirred frequently with a hoe between the rows.

PREMIUMS FOR THE SYRUP OF CHINESE SUGAR CANE.

Josiah Sawyer, of Tazewell county, obtained the first premium. The syrup was made in the usual manner and without experience. The syrup was expressed by a rude mill, the juice clarified with lime, and the specimen for which the premium was given, was reboiled. Mr. Sawyer thinks that, with experience and skill, molasses and sugar can be manufactured from the juice of this cane.

Moses Pierson, of Sangamon, received the second premium. Mr. Pierson had an eighth of an acre of cane, and with poor machinery he made from it forty gallons of molasses. His best syrup was made from perfectly matured cane. He clarified the syrup, some with eggs, some with milk, and some with blood. He believes that his experience will enable him to be more successful the ensuing year.

J. H. Smith, of Adams county, took the third premium. The specimen sent the Committee had not parted with its acid, but had to a considerable extent crystalized. His manner of converting the juice into syrup, was this: "He puts into a hundred gallons of juice a gill of lime; boils it down rapidly, skimming off all the scum that rises; when it is boiled to a thick syrup he puts it into an open vessel, lets it remain a few days, when it gradually grains into sugar."

These notices may be hereafter referred to, as furnishing something of the early processes of converting the juice of Chinese Sugar Cane into molasses and sugar. Every season will give more experience, and the great object, now difficult, will be successfully accomplished.

CIRCULAR

TO THE MEMBERS OF THE GENERAL COMMITTEE OF THE ILLINOIS STATE AGRICULTURAL SOCIETY.

OFFICE OF THE CORRESPONDING SECRETARY,
Springfield, March 10, 1857.

Mr..... .....

SIR:—As one of the means by which the State Agricultural Society aim to accomplish its great objects—"the promotion of Agriculture, Horticulture, Manufactures, Mechanic and Household Arts,"—its constitution provides that there shall be "a general committee for the counties."

This committee consists of one member for each county. You are appointed as the committee for your county. This appointment has been made by the Executive Committee of the State Society, in the confident hope and belief that you will faithfully and promptly perform the duties imposed by this appointment. These duties are: to spread such information before the people of your county as shall be transmitted to you for that purpose by the State Agricultural Society; to confer with the officers of your County Agricultural Society, if you have one, and, if you have not, to adopt all proper measures for the organization of one; to communicate to the State Society the condition and progress of agriculture in your county; to transmit to the Society accounts of your county exhibitions and fairs; in a word, to furnish to the Society whatever information you may obtain calculated to promote its general objects and designs.

Where does farming best succeed? Where is the best stock, the best cultivated farms, the best roads, the most flourishing schools, the best-improved country, but in those portions of the State where are found the most flourishing Agricultural Societies?

We would disabuse the public mind of the pernicious belief sometimes sought to be imposed upon it, that there are no improvements in the farmer's profession. We would impress upon the agricultural community that agricultural knowledge and science will render the work of the hands most efficient and profitable, and will raise the profession to its proper position as the leading industrial pursuit of the country.

Whatever the Society can do to promote the great objects of its formation in your county, they desire to do. They solicit a free correspondence with you, and suggestions from you in what manner they can be most useful. The corresponding secretary will at all times promptly respond to communications from you.

[L. S.] Again repeating a strong desire that you may be found efficient in promoting the objects of the Society,

I am, very respectfully, your obed't servant,

S. FRANCIS,
Corresponding Secretary Ill. State Ag. Society.

MEETING OF THE STATE SOCIETY.

PEORIA, *September* 24, 1857.

A meeting of members of the Illinois State Agricultural Society was held at the Court House, in Peoria, on Thursday evening, Sept. 24th, 1857, C. W. Webster, President of the Society, in the chair; who explained the objects of the meeting.

The Hon. John Jones, of Delaware, addressed the meeting, and Hon. M. L. Dunlap made a few remarks; when the following preamble and resolution were passed:

Whereas the Legislature of the State of Illinois and of several other States and large and influential public associations have petitioned Congress for an uniform grant of 500,000 acres of land, or the value thereof, to each State in the Union, for the purpose of founding and endowing in each State institutions for practical, scientific education in agriculture and the mechanic arts; and whereas the Agricultural Society of the United States, after a thorough investigation of the subject, through able committees and discussions before their Board of Agriculture, have decided to memorialize Congress to the same end; therefore,

Resolved, That the Agricultural and Horticultural Societies of Illinois, assembled in mass meeting at Peoria, by previous notice, do most heartily and cordially approve of such an appropriation of lands, and will co-operate with the United States Agricultural Society and the Legislatures and other Societies of the several States, by all proper means, for the attainment of the desirable end.

C. W. WEBSTER,
President of the Ill. State Ag. Society.

MEETING OF THE EXECUTIVE COMMITTEE.

Peoria, *September* 20, 1857.

Present—C. W. Webster, President; H. Capron, A. B. M'Connell and H. S. Osborn, Vice Presidents; S. Francis, Corresponding Secretary; Phil. Warren, Recording Secretary; and J. Williams, Treasurer.

The Committee adjourned to meet on the Fair Grounds.

Fair Grounds, Peoria, *September* 23, 1857.

Present—C. W. Webster, President; J. W. Singleton, S. A. Buckmaster, H. S. Osborn, J. E. M'Clun, H. Capron and L. Ellsworth, Vice Presidents; S. Francis, Corresponding Secretary; Phil. Warren, Recording Secretary; and J. Williams, Treasurer.

Mr. Buckmaster made a verbal report in relation to the diploma to be furnished by Joseph A. Miller, of Alton, stating that Mr. Miller had failed to comply with his contract.

On motion, the new design for a diploma furnished by Mr. Miller to the Board, was taken into consideration, and the following action had:

Resolved, That the design for a diploma furnished by Mr. Miller be returned to him as unsatisfactory to the Committee.

On motion of Gen. Singleton,

Resolved, That whereas Mr. Joseph A. Miller having failed to furnish this Society an engraving for a diploma of such design as was offered and contemplated by the contract of the Board with said Miller, S. A. Buckmaster be and hereby is authorized to secure, as soon as practicable, a suitable engraving of the design heretofore offered.

On motion of J. N. Brown,

Resolved, That persons having stock on exhibition, and being desirous of exhibiting the same at any other Fair, be permitted to take such stock from the grounds at any time after ten o'clock to-day.

Adjourned.

FAIR GROUNDS, *September* 24, 1857—9 *o'clock A. M.*

Present—C. W. Webster, President; L. Ellsworth, H. S. Osborn and J. E. M'Clun, Vice Presidents; S. Francis, Corresponding Secretary; Phil. Warren, Recording Secretary; J. Williams, Treasurer.

On motion of Mr. Francis,

Resolved, That our Senators and Representatives in Congress be requested to use their influence in the establishment of a Department or Board of Agriculture in connection with the other departments of government at Washington, the duty of which shall be to aid Agriculture by the dissemination of information, by the collection and distribution of valuable seeds, plants and cuttings, and which shall have means to make trial of all new productions promising to be of value in the vegetable kingdom, as well as of those the value of which is but partially known.

Bills against the Society, for expenses at the Fair, were examined and ordered to be paid.

PEORIA, *September* 26, 1858.

Present—C. W. Webster, President; A. B. M'Connell and H. S. Osborn, Vice Presidents; and S. Francis, Corresponding Secretary.

S. Francis acting as Recording Secretary.

Various bills for expenses at the State Fair were taken up, examined and ordered to be paid.

On motion of S. Francis, the following resolutions were unanimously adopted:

Resolved, That in closing our Fifth Annual Fair, we desire to express our satisfaction with the arrangements made by the officers of the Peoria County Agricultural Society in getting up the beautiful fixtures upon the Fair Grounds, and with the general and great liberality of the citizens of Peoria city and vicinity in providing for the accommodation of the immense throngs of people in attendance upon our great annual exhibition.

Resolved, That we tender, in this public manner, our obligations to the Railroad Companies of this and the neighboring States for the facilities they have afforded our Society in accomplishing our present successful exhibition. The development of the agricultural resources of our State will secure the rapid appreciation of the stock of our Railroads.

Resolved, That we award to the gentlemen of the press throughout our entire State our unfeigned thanks for their assistance in bringing about the glorious consummation we have just witnessed.

Resolved, That we refer with feelings of gratitude to those ladies and gentlemen who have furnished articles in the various departments of this exhibition. This they have done largely and liberally, and for which they have our sincere thanks.

Resolved, That when this Board shall adjourn we shall do so with the warmest feelings towards each other and with the determination still to give our best efforts for the advancement of the great agricultural interests of our beloved Illinois.

Resolved, That in testimony of our high appreciation of the conduct of the officers of the Peoria County Agricultural Society in their intercourse with the Executive Committee and the beautiful manner in which they prepared the Fair Grounds for the State Agricultural Society, we tender them, with our regards, a silver pitcher of the value of fifty dollars, upon which shall be engraved the following inscription:

"*Presented to the Peoria County Agricultural Society by the Executive Committee of the Illinois State Agricultural Society, as a testimonial for the beautiful manner in which they fitted up the Fair Grounds for our Fifth Annual Fair.*"

—To be kept as a perpetual testimony in our behalf.

Resolved, That as an expression of our gratitude for the services of Smith Frye, Chauncey Wood and W. Comington, Esqrs., for their agency in procuring the means and preparing the grounds for the State Fair, we tender to each of them, with our thanks, a silver goblet of the value of twenty dollars.

Resolved, That Smith Frye be appointed to take charge of all property belonging to the State Agricultural Society on the Fair Grounds, to sell or otherwise dispose of the same, under the direction of the President; and also to take charge of the property left upon the grounds by individuals, and to hold the same subject to the awards of their owners.

FACILITIES FURNISHED BY THE RAILROADS FOR THE FAIR.

The Superintendents of the following railroads carried passengers to and from the State Fair at Peoria, at half the usual fare; and also stock, and other articles for exhibition at the Fair, free of charge, if returned on the same road:

Illinois Central.
Ohio and Mississippi.
Terre Haute and Alton.
Great Western.
Chicago, Alton and St. Louis.
Peoria and Oquawka, and Eastern Extension.
Chicago and Rock Island.
Galena and Chicago.
Milwaukee and Chicago.
Chicago, Burlington and Quincy.
Chicago, Iowa and Nebraska.
Missouri and Mississippi.
Chicago and St. Paul.

The liberality of the managers of these roads contributed most essentially to the success of the Peoria Fair.

Adjourned to meet in Springfield on the 6th of January, 1853.

ANNUAL MEETING OF EXECUTIVE COMMITTEE.

SPRINGFIELD, *January* 6, 1858.

The Executive Committee met at the office of the corresponding secretary.

Present—C. W. Webster, President; H. C. Johns, Ex-President; J. E. McClun, A. B. McConnell, W. Kile, S. A. Buckmaster and H. S. Osborn, Vice-Presidents; John Williams, Treasorer, and Phil. Warren, Recording Secretary.

The proceedings of the last meetings having been read,

Mr. Buckmaster made a verbal report in regard to procuring diplomas, and stated that he had not made any definite arrangements for that purpose.

A statement from Mr. Joseph A. Miller, of Alton, in relation to the diplomas rejected by the Committee, was taken up, read and laid on the table.

The following report of the Committee on Farms was read and adopted:

The Committee on Farms, etc., of the Illinois State Agricultural Society,

Award the first premium for the best improved and most highly cultivated farm of five hundred acres to James N. Brown, of Sangamon county.

They award the second premium for the best improved and most highly cultivated farm of five hundred acres to J. M. Blackburn, of Edgar county.

They award the first premium for the best improved and most highly cultivated farm of one hundred and sixty acres, to Dr. McFarland, of the Insane Hospital farm—with this proviso:—That should it be the opinion of the Executive Committee that the farm of this institution comes fairly within the class of farms which were designed to fall under the action of the awarding committee, they award the second premium for the best improved and most highly cultivated farm of one hundred and sixty acres, to John H. Hosford, of La Salle county.

Provided the Insane Hospital farm is ruled out, as not a legitimate subject for the action of the awarding committee, then the first premium is awarded by the committee to John H. Hosford, of La Salle county, and the second premium to Benjamin Burt, of Champaign county

They award the first premium for the best and most highly improved and cultivated nursery, which contains the best variety of Fruit Trees, Shrubs and Plants, to Charles Kennicott, of Cook county.

They award the second premium for the best and most highly cultivated and improved nursery, etc., to M. L. Dunlap, of Champaign county.

WILLIAM S. WAIT,
SILAS H. ELLIOTT,
Awarding Committee.

On motion of Mr. Kile,

Resolved, That, while we are gratified at the high state of cultivation of the farm entered by Dr. McFarland—a credit alike to himself and our State—we do not think property belonging to the State ought to be allowed to compete with that of private citizens.

The awards for farms are therefore as follows:

For best improved and most highly cultivated farm of 500 acres, first premium, Jas. N. Brown, Sangamon county.

Second premium, James M. Blackburn, Edgar county.

For best and most highly cultivated farm of 160 acres, first premium, John H. Hosford, La Salle county.

Second premium, Benjamin Burt, Champaign county.

For the best and most highly cultivated nursery, which contains the best variety of fruit trees, ornamental shrubs and plants, first premium, Charles Kennicott, West Northfield, Cook county.

Second premium, M. L. Dunlap, West Urbana, Champaign county.

Premiums for the field crops were taken up for consideration, and the following awards were made:

For the best forty acres of Spring Wheat—32¾ bushels per acre—Hugh Huls, St. Charles, Kane county.

[The premium for this crop is Manny's Reaper, donated to this Society by Messrs. Talcott, Emerson & Co., of Rockford, Illinois.]

For best five acres of Fall Wheat, premium—240⅗ bushels on the five acres—John Anderson, Sparta, Randolph county.

For best five acres of Spring Wheat, first premium—35 bushels per acre—Harrison Hancock, Tazewell county.

For best crop of Indian Corn, five acres, first premium—122 bushels, 22 lbs. per acre—Harrison Hancock, Tazewell county.

For best five acres of Oats, first premium—95 bushels per acre—Harrison Hancock, Tazewell county.

Second premium—88½ bushels per acre—Daniel Kelly, Wheaton, Du Page county.

For best half acre of White Beans, first premium—21 bushels, 20 lbs—Harrison Hancock, Tazewell county.

Second premium—13½ bushels per half acre—Levi Mason, Bureau county.

Best half acre of Potatoes, premium—250 bushels per half acre—Harrison Hancock, Tazewell county.

Best acre of Timothy Seed, premium—15 bushels per acre—Harrison Hancock, Tazewell county.

Best acre of Blue Grass Seed, premium—24 bushels per acre—Harrison Hancock, Tazewell county.

Best one-fourth of an acre of Onions, premium—70 bushels per quarter acre—A. B. Rumsey, Kankakee county.

A letter from Hon. Marshall P. Wilder, President of the United States Agricultural Society, proposing to unite the next Fair of that Society with that of the Illinois State Agricultural Society, was taken up for consideration, and laid on the table for the present.

On motion,

Resolved, That our Senators and Representatives in Congress be requested to attend the meeting of the United States Agricultural Society, in Washington, on Wednesday next, as delegates for this Society.

Resolved, That we desire them to present the name of Hon. H. C. Johns, of Macon county, for one of the Vice-Presidents, in behalf of the State of Illinois.

Adjourned till 2 o'clock P.M.

Two o'clock P.M.

Board met pursuant to adjournment.

A communication from Dr. Starbuck, of Peoria, was read and referred to a committee, consisting of Messrs. McConnel, Osborn and McClun.

On motion, essays were taken up for consideration.

On motion of Dr. Johns, the following Committees were appointed to examine and report upon the essays submitted to them:

On Hogs—Messrs. Kile, Crowder and Chandler.

On Horses—Messrs. Buckmaster and Vanderin.

On Sheep—Messrs. McConnell, Osborn and Mann.

On the Culture of Fruit, Forest and Ornamental Trees—Messrs. Johns, Charles Kennicott and Ketchum.

On the Culture of Sugar Cane—Messrs. McClun and Hedges.

On a Disquisition on Self-Education, addressed to the Farmer—Messrs. Reynolds, Francis and Warren.

[Note.—Several gentlemen present, on request, kindly acted on the above Committees.]

The Board took a recess for the purpose of examining these essays; after which,

The Committee for the examination of the essay on the growing of Sugar Cane, reported adverse to awarding a premium.

The Committee to examine essays upon the rearing of Horses and Mules, reported in favor of awarding the first premium to Phill Warren, of Springfield.

The Committee appointed to examine the essays upon the raising of Hogs, reported against an award.

The Committee appointed to examine essays upon the rearing of Sheep, reported adverse to awarding a premium.

The Committee appointed to examine essays upon the culture of Fruit, Forest and Ornamental Trees, reported in favor of awarding a preminm to O. Ordway, of Marshal county, for the best treatise upon the culture of Forest and Ornamental Trees, and a premium to C. R. Overman, of McLean county, for the best treatise on the cultivation of Fruit Trees;

Which several reports were concurred in.

J. Williams, Treasurer, made a verbal report of the financial condition of the Society.

Several essays on the Embellishment of a Country Home were taken up and read; when,

On motion, adjourned to meet at seven o'clock in the evening.

Seven o'clock P. M.

Committee met—same members present as before.

On motion, the first premium for the essay "On the Embellishment of a Country Home" was awarded to Miss Frances E. Willard, of Janesville, Wisconsin; and the second premium to Mrs. R. B. Hatch, of Griggsville, Pike county.

The Committee appointed to examine "A Disquisition upon Self-Education," by J. C. Power, of Peoria, reported in favor of its publication; which report was accepted and adopted.

The Committee examined seventeen specimens of Chinese sugar cane syrup.

On motion, a Committee of ladies was appointed to examine the syrups and recommend the awards, consisting of Mrs. J. A. Matteson, Mrs. S. Francis, Mrs. C. Birchall and Miss Shaw, of Tremont.

Adjourned till 8 o'clock to-morrow morning.

January 7—eight A. M.

Committee met.

Present—C. W. Webster, President; H. C. Johns and J. N. Brown, Ex-Presidents; Wm. Kile, J. E. McClun and H. S. Osborn, Vice Presidents; S. Francis, Corresponding Secretary; and Phill Warren, Recording Secretary.

On motion,

Resolved, That the Corresponding Secretary send twenty volumes of the last volume of Transactions to each member of the Board.

On motion, the subject of diplomas was taken up for consideration.

On motion,

Resolved, That action upon the communication of Mr. Joseph A. Miller in relation to diplomas be indefinitely postponed, and that his papers be returned to him.

On motion of Dr. Johns,

Resolved, That the resolution authorizing Mr. Buckmaster to contract for diplomas be rescinded.

Resolved, That silver medals, properly engraved, be substituted for diplomas awarded at our last Fair.

Resolved, That the use of diplomas by this Society be dispensed with, and that gold, silver and bronze medals be substituted for the same.

The communication from Hon. Marshal P. Wilder, President of the United States Agricultural Society, in relation to uniting the Illinois and United States Fairs, was again taken up and fully discussed.

On motion of Mr. Warren,

Resolved, That in the opinion of this Board it is inexpedient to unite with the United States Agricultural Society in holding our next Annual Fair; and that our Corresponding Secretary be requested to inform President Wilder of the action of this Board.

Adjourned till 2 o'clock P. M.

Two o'clock P. M.

Board met—present as before.

Communications from Messrs. Talcott, Emerson & Co., offering to donate a mower and reaper to the Society as a premium for the best crop of wheat; and from Messrs. Selby, Jones & Co., of Peoria, and Messrs. Kuhns & Co., of Dayton, offering for the same purpose drills; and of Charles W. Cahoon, a broad cast sower, for the same purpose, were presented to the Board; which donations were accepted by the Board.

The Committee appointed to examine Dr. Starbuck's communication, made the following report; which was adopted:

The undersigned beg leave to report that they have had the communication of Dr. Starbuck, of Peoria, under consideration, with all the facts, so far as they have been able to ascertain them, and find that certain articles of dentistry were regularly entered by Dr. Starbuck at the late State Fair, held at Peoria, and placed in their proper department for exhibition; but for causes unknown to your Committee, said articles were overlooked by the Awarding Committee, and consequently were never examined, or come into competition with those articles in the department in which they were entered.

A. B. McCONNELL, *Chairman.*

On motion of Mr. Warren,

Resolved, That the Treasurer be directed to make such a disposition of the funds now on hand belonging to the Society, as will bring the Society six per cent. interest, and be subject to draft.

Resolved, That the Treasurer be authorized to purchase of I. B. Curran the amount of plate left on his hands after the premiums are paid out: *Provided* the same can be bought at eastern cost.

On motion of Mr. Buckmaster,

Resolved, That the same premiums, generally, upon the same articles, provided for in our last premium list, will be given for articles offered for exhibition at the next Fair, except No. 32, Class F., and that the Superintendents of the different departments shall furnish the Corresponding Secretary such alterations in the premium list and Awarding Committees as they may think proper, within thirty days, and that the same persons be appointed Superintendents of the departments assigned to them at the last Fair.

On motion of Mr. Brown,

Resolved, That the resolution heretofore adopted, "that the Society will hold its annual Fair at no place that will not pay the entire expenses of the Fair grounds, fixtures and police," be rescinded.

On motion of S. A. Buckmaster,

Resolved, That the executive Board of the Illinois State Agricultural Society offer a premium of *five thousand dollars* for the best steam engine, suitable for plowing and other work; the practicability to be decided by this Board.

Resolved, That the Executive Board meet on the 9th of March, 1858.

Resolved, That the Corresponding Secretary be required to give notice that proposals will be received from the cities and towns of this State for holding the next State Fair—the proposals to be received by him in time for the action of the Board at their March meeting.

The Committee appointed to examine the Chinese cane syrups, made the following report:

That they award the first premium to Josiah Sawyer, of Tremont; the second to Moses Pierson, of Springfield; and the third to J. H. Smith, of Quincy.

Report accepted and adopted.

The Board adjourned.

SPRINGFIELD, *March* 9, 1858.

The Executive Committee met at the office of the Corresponding Secretary, pursuant to adjournment.

Present—C. W. Webster, President; J. N. Brown and H. C. Johns, Ex-Presidents; H. Capron, L. Ellsworth, J. E. McClun, A. B. McConnell, Wm. Kile, H. S. Osborn and S. A. Buckmaster, Vice-Presidents; John Williams, Treasurer; S. Francis, Corresponding Secretary; and Phill Warren, Recording Secretary.

The time of the sitting was spent in revising and arranging the premium list for 1858.

Adjourned to meet at the Supreme Court Room at two o'clock, to decide upon the location of the next State Fair.

Two o'clock P.M.

The Committee met, pursuant to adjournment.

Applications were laid before the Board for holding the State Fair at Jacksonville, Centralia, Freeport and Peoria.

The friends of the different applications having withdrawn, and the subject having been fully discussed by the members of the Committee,

On motion,

Resolved, That the next State Fair be held at Centralia.

On motion,

Resolved, That the Recording Secretary prepare a bond, to be signed by the committee from Centralia, as a guarantee that the requirements of this Society will be complied with.

Adjourned till seven o'clock P.M.

Seven o'clock P.M.

The Committee met, and spent the evening in revising the premium list.

Adjourned till to-morrow morning at eight o'clock.

March 10—*eight o'clock A.M.*

The Committee met.

Present—the same members as before.

On motion, Messrs. Ellsworth, Francis and Williams were appointed a committee to procure plate for the next Fair.

On motion,

Resolved, That S. Francis and L. Ellsworth be a committee to complete the premium list for the Horticultural Department.

Resolved, That in consequence of the complete arrangements made last year for holding the State Fair at Peoria, and the great cost of the same, the note now held by this Society against Smith Frye be given to the Peoria County Agricultural Society.

The revision of the premium list having been gone through with,

On motion,

Resolved, That the following persons be appointed Superintendents of the different Departments for the next Fair:

BRACELET.

Raised by J. N. Brown, Sangamon county, and now owned by J. M. Hill, of Cass county. BRACELET won the first prize, for two-years-old heifers, at the State Fair, in Springfield, in 1854; and at Chicago, for three-years-old, in 1855. She received the first premium, for cows over four years old, at the Centralia fair, 1858.

BRACELET is a roan—was calved June 26, 1852; got by Vandal (2065); first dam Miss Bowers, by Accident (191); second dam Beauty, by Accommodation (2907); third dam Poll, by a son of Tecumseh (5409); fifth dam, by Tecumseh (5409).

[Face page 77.

1st	Department.	CATTLE	H. Capron.
2d	"	HORSES	S. A. Buckmester.
3d	"	SHEEP, SWINE AND POULTRY	A. B. McConnell.
4th	"	AGRICULTURAL IMPLEMENTS	J. E. McClun.
5th	"	FARM AND GARDEN PRODUCTS	H. S. Osborn.
6th	"	FRUIT AND FLOWERS	L. Ellsworth.
7th	"	MACHINERY, ETC	Wm. Kile.
8th	"	MUSIC, PAINTING, ETC	J. G. Vaughan.
9th	"	TEXTILE FABRICS	A. McDonald.
10th	"	NATURAL HISTORY, ETC	S. Y. McMasters.
11th	"	PLOWING MATCH	Urial Mills.

John P. Reynolds was appointed Superintendent of the Fair Grounds.

Adjourned.

CALLED MEETING OF THE BOARD.

Centralia, *July* 21, 1858.

Present—C. W. Webster, President; J. N. Brown, Ex-President; L. Ellsworth, William Kile, H. S. Osborn, J. E. McClun, Vice-Presidents; S. Francis, Corresponding Secretary; and John Williams, Treasurer.

The subject of postponing the State Fair was taken up for consideration, and after being fully discussed, the following resolution was adopted:

Resolved, That it is inexpedient to postpone the time of holding the State Fair.

Adjourned, to meet on the Fair Grounds, on Saturday, the 11th day of September next.

SIXTH ANNUAL FAIR

OF THE

ILLINOIS STATE AGRICULTURAL SOCIETY,

HELD AT CANTRALIA, SEPTEMBER 14, 15, 16, AND 17, 1858.

PREMIUMS AWARDED:

NOTE.—The State is not designated except where premiums are awarded for articles from other states.

CLASS A.

No. 1—DURHAM CATTLE—BULLS.

Best Bull, 4 years old and over, *Crusader*, R. G. Corwin, Lebanon, Ohio	$30
Second best, *Defender*, A. G. Carle, Urbana	20
Third best, *Mingo*, Wm. M. Laehr, Bloomington	10
Best Bull, 3 years old and under 4, *Yeodor*, J. D. Smith, Berlin	30
Second best, *Abe Lincoln*, W. P. Withers, Bloomington	20
Third best, *King Albert*, J. N. Brown	10
Best Bull, 2 years old and under 3, *Governor*, J. B. Turner, Mattoon	30
Second best, *Clifton*, W. A. Eads, St. Louis, Mo	20
Third best, *Young Ben*, O. B. Nicholls, Carlyle	10
Best Bull, 1 year old and under 2, *Gen. Harney*, Jeremiah Turpin, Carrollton	30
Second best, *Reform*, J. N. Brown, Berlin	20
Third best, *Matteson*, S. Dunlap, Jacksonville	10
Best Bull Calf, under 1 year, *Lord Alexander*, J. N. Brown, Berlin	30
Second best, *Panic*, J. N. Brown, Berlin	20
Third best, *Yeodor 2d*, J. P. Henderson, Jacksonville	10

COWS.

Best Cow, over 4 years old, *Bracelet*, J. M. Hill, Cass county	30
Second best, *Sally Campbell*, J. N. Brown, Berlin	20
Third best, *Lady Blanche*, S. Dunlap, Jacksonville	10
Best Cow, 3 years old and under 4, *Ruby 2d*, J. D. Smith, Berlin	30
Second best, *May Flower*, S. Dunlap, Jacksonville	20
Third best, *Rachel 2d*, J. N. Brown, Berlin	10
Best Heifer, 2 years old and under 3, *Lady Washington*, J. P. Henderson, Jacksonville.	30
Second best, *Flora*, R. Calef, Piatt county	20
Third best, *Countess*, S. Dunlap, Jacksonville	10
Best Heifer, 1 year old and under 2; *Lady Frances*, J. N. Brown, Berlin	30
Second best, *Sunshine*, E. Stevenson, Jacksonville	20
Third best, *Fairy*, A. G. Carle, Urbana	10
Best Heifer Calf, under 1 year, *Favorite*, J. D. Smith, Berlin	30
Second best, *Beauty*, W. R. Combs, Mahomet	20
Third best, *Hettie Smith*, J. D. Smith, Berlin	10

No. 2—DEVON CATTLE.

Best Bull, 2 years old and under 3, *Rob Roy*, Robert Mills, Marion county..... $30

No. 5—NATIVES AND CROSSES.

Best Cow, 4 years old and over, *Adelaide*, A. G. Carle, Urbana..... 12
Second best, *Peggy*, Benjamin Burt, Urbana..... 8
Best Cow, 3 years old and under 4, *Gaudy*, A. G. Carle, Urbana..... 12
Second best, *Lulu*, A. G. Carle, Urbana..... 8
Best Heifer, 2 years old and under 3, *Bell*, J. W. Turpin, Carrollton..... 12
Second best, *Lizzie Fairfax*, E. Stevenson, Jacksonville..... 8
Best Heifer, 1 year old and under 2, *Arabella*, A. G. Carle, Urbana..... 12
Second best, *Elizabeth*, A. G. Carle, Urbana..... 8
Best Heifer, under 1 year old, *Flora*, A. G. Carle, Urbana..... 12
Second best..... 8

No. 6—MILCH COWS.

Best Milch Cow, *Pied*, Cyrus Jones, Bloomington..... 20
[The milk of this cow in ten days in June made 22½ lbs. of butter; in ten days in July, 20¾ lbs.]

No. 7—FAT CATTLE.

Best three Bullocks, 3 years old or over, R. Calef, Piatt county..... 20
Best fat Bullock, 3 years old and over, W. P. Withers, Bloomington..... 10
Best fat Heifer, 3 years old and over, *Mary*, M. W. Collins, Fairfield, Wayne county. 10

No. 8—WORK OXEN AND STEERS.

Best four yoke of Oxen, L. W. Jennings, Centralia..... 30
Best yoke of Oxen, C. W. Webster, Marion county..... 10
Second best, J. B. Cunningham, Marion county..... 5
Best trained 2 years old and under 3, Steers, by boy 9 years old, C. W Webster, jr., Salem..... 5

No. 9—SWEEPSTAKES.

Best Bull and five Cows or Heifers, from 1 year old and upwards, from any one county, J. N. Brown, Sangamon county..... 50
Second best, S. Dunlap, Morgan county..... 25
Best five head of Calves, male and female, under 1 year old, from one county, J. D. Smith, Sangamon county..... 30
Second best, A. G. Carle, Champaign county..... 15
Best Cow or Heifer, of any age, J. N. Brown, Sangamon county.....Gold Medal.
Best Bull, of any age, A. G. Carle, Champaign county.....Gold Medal.

CLASS B—No. 10.

Best Stallion, 4 years old and over, *Barnton*, Sanger, Jacoby & Co., Springfield..... 30
Second best, *Glencoe*, Col. Roberts, Jacksonville..... 20
Best Mare, 4 years old, *Jenny Lind*, Joseph Morton, Jacksonville..... 30
Best Mare Colt, 1 year old and under 2, *Kitty Cloyd*, A. G. Carle, Urbana..... 30

No. 11—HORSES OF ALL WORK.

Best Stallion, over 4 years old, *Granite State*, J. Y. Sawyer, Godfrey..... 30
Second best, *Whalebone*, F. S. Casey, Mount Vernon..... 20
Best Stallion Colt, over 3 and under 4 years old, *New York Blackhawk*, W. Bosworth, Bloomington..... 30
Second best, *Illinois Farmer*, Solomon Miller, Belleville..... 20
Best Stallion Colt, over 2 years and under 3 years old, *One*, A. W. Scogin, Bloomington..... 30
Second best, *Bellfounder*, F. J. Smith, Salem..... 15
Best Stallion Colt, over 1 year and under 2 years old, *Charter Oak*, H. C. Bull, Alton.. 30
Second best, *Young Grey Highlander*, A. W. Hess, Arcola, Coles county..... 15

Best Brood Mare, over 4 years old, *Queen Isabel*, Joseph Morton, Jacksonville..... $30
Second best, *Mary Morgan*, L. L. Dorsey, Louisville, Ky..... 20
Best Filly, over 3 years old and under 4, *Mary Winchester*, L. L. Dorsey, Louisville, Ky..... 30
Second best, *Anna*, L. L. Dorsey, Louisville, Ky..... 20
Best Filly, over 2 years old and under 3, *Miss Fashion*, John Prunty, Ashland, Cass county..... 30
Second best, *Our Filly*, Wm. L. Green, Mount Vernon..... 20
Best Filly, over 1 year old and under 2, *Martha*, John M. Coswell, Rome, Jefferson county..... 30
Second best, *Maria*, Nelson Montgomery, Edwardsville..... 15
Best Sucking Colt, *Little Giant*, Geo. W. Carr, Upper Alton..... 20
Second best, *Young Whalebone*, F. S. Casey, Mount Vernon..... 10

No. 12—DRAUGHT HORSES.

Best Stallion, for draught, 4 years old and over, *Stallion Gilbert*, James Oldman, Davis county, Ky..... 20
Second best, *Young Gilbert*, Andrew Ray, Vandalia..... 10
Best Stallion, for draught, 3 years old and under 4, *Mingo*, Geo. W. Anderson, Centralia..... 20
Second best, *John Fender*, Effingham county..... 10
Best Stallion, for draught, *Young Louis Napoleon*, A. P. Cushman, Waynesville..... 20
Second best, *Perfection*, S. Fleming, Effingham county..... 10
Best Stallion, for draught, one year old and under 2, *Davy Crockett*, W. Hodgson, Pekin..... 20
Second best, *Christopher*, W. Hodgson, Pekin..... 10
Best Gelding, for draught, 3 years old, Isaac Jennings, Salem..... 20
Best Brood Mare, for draught, 4 years old, *Bet*, John Prunty, Ashland..... 15
Second best, *Lydia*, Levi Dillon, Boynton, Tazewell county..... 10
Best Filly, 3 years old and under 4, *Nancy*, Robert Kinder, Edwardsville..... 15
Second best, *Filly*, James Johnson, Central City..... 10
Best Filly, for draught, 2 years old and under 3, *Betsy Baker*, A. P. Cushman, Waynesville..... 15
Second best, *Blaze*, Nelson Montgomery, Edwardsville..... 10
Best Mare Colt, for draught, over 1 year old, *Maria*, Nelson Montgomery, Edwardsville..... 15
Best Sucking Colt, *Ally*, Levi Dillon, Boynton, Tazewell county..... 10
Best pair of Draught Horses, for farm, *Tom* and *Dock*, Henry Lusk, Bloomington.... 20

No. 13—CARRIAGE HORSES.

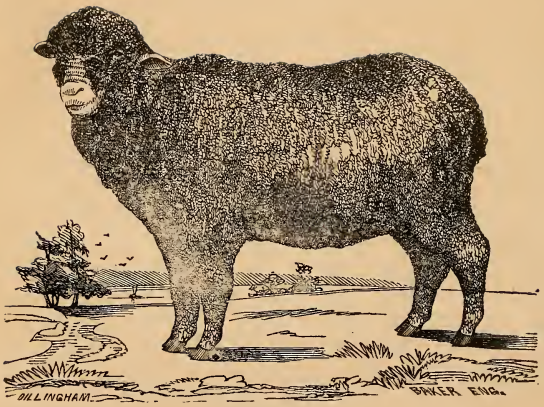
Best pair matched Carriage Horses, Geo. H. Lindsley, Jonesboro..... 30
Second best, Geo. W. Chatterton, Springfield..... 15
Best pair matched Mares, Calvin Rowley, Rockford..... 30
Second best, L. L. Dorsey, Louisville, Ky..... 15

No. 14—SINGLE HARNESS HORSES.

Best single harness Horse, *Harry*, S. A. Buckmaster, Alton..... 30
Second best, *Jake*, G. W. Chatterton, Springfield..... 15
Best single harness Mare, *Julin*, L. L. Dorsey, Louisville, Ky..... 30
Best Gelding, 3 years old, *Honest John*, J. E. Crooks, Central City..... 30
Second best, L. L. Dorsey, Louisville, Ky..... 15
Best mare, 3 years old, *Wild Rose*, R. Kinder, Edwardsville..... 30
Second best, *Julia Dean*, John Cunningham, Salem..... 15
Best Gelding for saddle, 4 years old, *Felix Grundy*, J. B. Affleck, Osborn..... 30
Second best, *Mound City*, Thomas Kirk, Mound City..... 15
Best Mare for saddle, *Lady*, W. B. Hundley, Madison county..... 30
Second best, *Lady Kate*, Geo. W. Botsford, Middleport..... 15
Best Stallion for single harness, 4 years old, Daniel Myers, Salem..... 30
Second best, *Grey Messenger*, Hiram C. Clark, Atlanta..... 15
Best Stallion for saddle, 4 years old, *Sea Gull*, W. B. Hundley, Alton..... 30
Second best, *Buck Eye Boy*, Benj. Ladd, Mahomet..... 20
Best Stallion Pony in harness, *Smoker Boy*, S. A. Buckmaster, Alton..... 30
Second best, A. S. Merritt, St. Louis, Mo..... 15

No. 15—JENNETS AND MULES.

Best Jack, 4 years old and over, *Mammoth*, F. Todd, Kankakee..... 40
Second best, *Tippecanoe*, G. W. Pickering, Neoga..... 20



TRANSIT.

Owned by Daniel Kelly, jr., of Wheaton, Du Page county, Illinois.—Winner of the first premium at the Illinois State Fair, 1858. Since purchased by Peleg S. Spencer, of Danville, Vermilion county, Illinois, for two hundred dollars, at six months old. TRANSIT has descended directly from Humphrey & Jarvis' importation, and is believed to have no superior, in point of blood, in this country. The age of Transit, when ambrotype was taken, was ten months. Weight of fleece, one year's growth, sixteen pounds, and sold to Joseph Kirkland for fifty cents per pound. Value of fleece, eight dollars.

It is but just to say that the foregoing engraving, made from an ambrotype, by no means flatters the animal. Indeed it is nearly impossible for the engraver to bring out the important points from an ambrotype, as we have found to our cost.

[Face page 81.

Best Jack, 3 years old and under 4, *Jack*, V. Q. Lee, Salem..... $40
Second best, *Young Western*, D. Kennedy, Nashville..... 20
Best Jack, 2 years old and under 3, *Moses*, E. M. Carty, Coles county..... 30
Best Jack, 1 year old and under 2, *Jack*, Abraham Byram, Mitchelville, Tenn..... 20
Best Jennet, 4 years old and over, *Jenny Lind*, T. Boswell, Pilot, Vermilion county.. 30
Second best, *Sall*, S. Hull, Salem..... 15
Best Jennet, 3 years old and under 4, *Isabel*, T. Boswell, Pilot..... 30
Best Jennet, 2 years old and under 3, *Jin*, W. W. Collins, Fairfield..... 20
Best Jennet, 1 year old and under 2, Jasper Light, DuPoint, Perry county..... 20
Best pair Mules, for draught or farm, A. W. Ewbank, Bloomington..... 20
Second best, W. S. Crawford, Benton..... 10
Best single Mule, over 3 years old, John Prunty, Ashland..... 10
Second best, A. M. Crary, Cave, Franklin county.....Medal.
Best single Mule, over 2 years old and under 3, H. B. Newby, Mount Vernon..... 10
Second best, H. B. Newby, Mount Vernon.....Medal.
Best single Mule, over 1 year old and under 2, James M. Blades, McLeansboro..... 10
Best Mule Colt, W. H. Clayton, Nashville..... 10
Second best, Joseph Aldrich, Centralia.....Medal.

No. 16—SWEEPSTAKES.

Best 10 Mule Colts, from one county, Joseph Aldrich, Centralia. Marion county..... 30
Second best 10 Mule Colts and Jack, *Buchanan*, J. M. Oglesby, Salem..... 20
Best Stallion and 5 Brood Mares, belonging to one person or from one county, L. L. Dorsey, Louisville, Ky..... 50
Best Mare, *Queen Isabel*, Joseph Morton, Jacksonville.....Gold Medal.
Best Stallion, *Barnton*, Sanger, Jacoby & Co., Springfield.....Gold Medal.

CLASS C.

No. 17—SHEEP—COTSWOLD, LONGWOOL, &c.

Best Buck, 2 years old and over, C. W. Price, Berlin..... 15
Best Buck Lamb, under 1 year old, A. Becraft, Jacksonville..... 15
Second best, Washington Iles, Springfield..... 10
Best pen of 3 ewes, over 2 years old, C. W. Price, Berlin..... 15
Second best, C. W. Price, Berlin..... 10
Best pen of 3 Ewes, under 2 years old, C. W. Price, Berlin..... 15
Best pen of 3 Ewe Lambs, under 1 year old, W. Iles, Springfield..... 10
Second best, Cotswold, John Lee, Carter..... 10

No. 18—MIDDLE WOOLED, SOUTH DOWN.

Best Buck, South Down, over 2 years old, A. Becraft, Jacksonville..... 15
Second best, W. B. Foreman, Nashville..... 10
Best Buck, under 2 years, W. B. Foreman, Nashville..... 15
Best Buck Lamb, under 1 year, W. Iles, Springfield..... 15
Second best, W. Iles, Springfield..... 10
Best pen of 3 Ewes, under 1 year, A. Becraft, Jacksonville..... 15
Second best, W. Iles, Springfield..... 10
Best pen of 3 Ewe Lambs, under 1 year, A. Becraft, Jacksonville..... 15

No. 19—FRENCH MERINOES.

Best Buck, over 2 years old, John McConnell, Springfield..... 15
Second best, E. Gorham, Hadley..... 10
Best Buck, under 2 years, J. McConnell, Springfield..... 15
Second best, A. B. McConnell, Springfield..... 10
Best Buck Lamb, under 1 year, *Anti-Lecompton*, A. B. McConnell, Springfield..... 15
Second best, Joel Acree, Butler's Point, Vermilion county..... 10
Best pen of 3 Ewes, over 2 years, A. B. McConnell, Springfield..... 15
Second best, A. B. McConnell, Springfield..... 10
Best pen of 3 Ewes, under 2 years, John McConnell, Springfield..... ...
Second best, A. B. McConnell, Springfield..... 10
Best pen of 3 Ewe Lambs, under 1 year, John McConnell, Springfield..... ...

No. 20—SPANISH MERINOES.

Best Buck, over 2 years, D. Kelly, Jr., Wheaton	$15
Second best, E. Gorham, Hadley	10
Best Buck, under 2 years, John McConnell, Springfield	15
Second best, P. S. Spencer, Danville	10
Best Buck Lamb, under 1 year, *Transit*, D. Kelly, Jr., Wheaton	15
Second best, P. S. Spencer, Danville	10
Best pen of 3 Ewes, over 2 years, D. Kelly, Jr., Wheaton	15
Second best, D. Kelly, Jr., Wheaton	10
Best pen 3 Ewes, under 2 years, D. Kelly, Jr., Wheaton	15
Second best, D. Kelly, Jr., Wheaton	10
Best pen of 3 Ewe Lambs, under 1 year, D. Kelly, Jr., Wheaton	15
Second best, D. Kelly, Jr., Wheaton	10

No. 21—CROSSES OF ALL BREEDS.

Best buck, over 2 years, A. B. McConnell, Springfield	15
Second best, P. S. Spencer, Danville	10
Best buck, under 2 years, A. B. McConnell, Springfield	15
Second best, J. McConnell, Springfield	10
Best Buck Lamb, under 1 year, *Frank*, Freeman Pollard, Warrenville	15
Second best, J. McConnell, Springfield	10
Best pen of 3 Ewes, over 2 years, A. B. McConnell, Springfield	15
Second best, P. S. Spencer, Danville	10
Best pen of 3 Ewes, over 2 years, J. McConnell, Springfield	15
Second best, J. McConnell, Springfield	10
Best pen of 3 Ewe Lambs, under 1 year, J. McConnell, Springfield	15
Second best, French cross, Freeman Pollard, Warrenville	10

No. 22—FAT SHEEP.

Best 3 fat Sheep, over 2 years, C. W. Price, Berlin	10
Best 3 fat Sheep, under 2 years, C. W. Price, Berlin	10

No. 23—SWEEPSTAKES—LONG AND MIDDLE WOOLED.

Best lot of Sheep, of any age, not less than 1 Buck and 9 Ewes, C. W. Price, Berlin	20
Second best, A. Beeraft, Jacksonville	10

No. 24—OPEN FOR ALL FINE WOOLED.

Best lot of Sheep, of any age, not less than 1 Buck and 9 Ewes, J. McConnell, Springfield	20
Second best, D. Kelly, Jr., Wheaton	10

MISCELLANEOUS.

One lot of Cashmere Goats, J. Kelly, Bainbridge, Ross Co., Ohio; committee recommended a premium of	15

No. 25—SPEPHERD'S DOG.

Best Shepherd Dog, *Ned*, C. W. Price, Berlin	10

CLASS D.

No. 26—SWINE.

Best Boar 1 year old and over, Berkshire, Jesse Clyde, Urbana	15
Second best, A. C. Edgar, Mount Carroll	10
Best Boar 1 year old and under, Suffolk, J. M. Gillet, Hadley	15
Second best, Suffolk, J. A. Carpenter, Waukesha, Wisconsin	10
Best Breeding Sow 2 years old and over, *Beauty*, J. M. Gillett, Hadley	15
Second best, *Queen of the West*, J. M. Gillett, Hadley	10
Best Breeding Sow 1 year old and under 2, Benj. Burt, Urbana	15
Second best, Suffolk, J. T. Sylvester, Arcola	10
Best Sow under 1 year, E. N. Tainter, Springfield	15
Second best, Suffolk, J. T. Sylvester, Arcola	10

No. 27—SWEEPSTAKES.

Best Boar and three Sows, J. M. Gillett, Hadley	$20
Second best, E. N. Tainter, Springfield	15
Best Boar of any age, Jesse Cloyd, Urbana	20
Best Sow of any age, E. N. Tainter, Springfield	20

CLASS E.

No. 28—POULTRY.

Best pair Dorkins, J. A. Carpenter, Waukesha, Wisconsin	3
Best pair Shanghais, Charles Heath, Central City	3
Second best, B. Sprague, Du Quoin	Periodical.
Best pair Bolton Greys, S. Francis, Springfield	3
Best pair Brahma Pootras, D. Callahan, Springfield	3
Second best, J. M. Gillett, Hadley	Ag. Periodical.
Best pair Muscovy Ducks, D. Callahan, Springfield	3
Best pair Liberian Ducks, D. Callahan, Springfield	3
Best pair Poland Ducks, D. Callahan, Springfield	3
Best pair Guinea Hens, D. Callahan, Springfield	3
Best pair Fancy Rabbits, J. D. Wilson, Urbana	3
Best exhibition of Pigeons, D. Callahan, Springfield	3
Best exhibition of Poultry, D. Callahan, Springfield	3

MISCELLANEOUS.

Mixed Guinea Hens; commended.
White Top-knot Bantams; commended.
Gray Foxes, L. C. Schism; domesticated.

CLASS F.

No. 29—AGRICULTURAL IMPLEMENTS.

Best Plow of newly invented principles, R. S. Benton, New York	Medal.
[The Committee commended the two-wheel Excelsior Plow of G. D. Cotton, Galesburg.]	
Best Plow for old prairie, Buford & Tate, Rock Island	10
Second best, Toby & Anderson, Peoria	Medal.
Best Plow for clay soil, T. D. Brewster, Peru	10
Second best, Buford & Tate, Rock Island	Medal.
Best Sod Plow, Toby & Anderson, Peoria	10
Second best, John Deere, Moline	Medal.
Best Sod Plow for two horses, Toby & Anderson, Peoria	10
Second best, John Deere, Moline	Medal.
Best Sub-soil Plow, Toby & Anderson, Peoria	10
Second best, John Deere, Moline	Medal.
Best Plow for all uses, Buford & Tate, Rock Island	10

No. 30—CULTIVATORS, ROLLERS, ETC.

Best Clod Crusher and Roller combined, H. D. Emery & Co., Chicago	5
Second best, Geo. H. Bothwell, Calhoun county, Michigan	Medal.
Best Horse Rake, John J. Squire, Bunker Hill	5
Best Corn Cultivator, Toby & Anderson, Peoria	5
Second best, Buford & Tate, Rock Island	Medal.

MISCELLANEOUS.

Double Shovel Plow, John Deere, Moline; commended.
Single Shovel Plow, John Deere, Moline; commended.
Revolving Horse Rake, Spencer Day, Beaver Dam, Dodge county, Wisconsin; a first premium recommended.

Land Side Cutter for a plow, R. S. Stanton, New York; believed to be a valuable improvement.
Iron Harrow, J. M. Colburn, Camanche; a first premium recommended.
Excavator and Conveyer, A. Taggart, Mattoon; a medal recommended.
Forest Grubber Plow, Buford & Tate, Rock Island; a medal recommended.

No. 31—SHOVELS AND FORKS.

Best and most numerous variety of Agricultural Implements, manufactured by exhibitor, or under his supervision, materials, workmanship, utility and durability to be considered, H. D. Emery & Co., Chicago 10
Best set of Gardener's Tools, H. D. Emery & Co., Chicago ..... Medal.
Best six Hay Forks, H. D. Emery & Co., Chicago ..... Medal.
Best six Manure Forks, H. D. Emery & Co., Chicago ..... Medal.
Best six Shovels, H. D. Emery & Co., Chicago ..... Medal.
Best six Spades, H. D. Emery & Co., Chicago ..... Medal.
Best six Hoes, H. D. Emery & Co., Chicago ..... Medal.
Best Ox Yoke, H. D. Emery & Co., Chicago ..... Medal.
Second best, John Deere, Moline ..... Ag. Periodical.
Best Bush Scythe, North Wayne Scythe Company, North Wayne, Maine ..... Medal.
Best pair Hedge Shears, H. D. Emery & Co., Chicago ..... Medal.

No. 32—DRILLS, CORN PLANTERS, ETC.

Best Gauge Grain Drill, B. Kuhns & Co., Springfield ..... Meda
Best horse power Corn Planter, G. W. Brown, Galesburg ..... Medal
[The Committee recommend a second premium to Thomas B. Houghton, Bloomington.]
Best broad-cast Sowing Machine, G. Lindley Chicago ..... Medal.
[The Committee recommend a second premium to be given to Galt & Patterson, Sterling.]
Best Timothy and Clover Seed Planter, Thos. Mast & Co., Springfield, Ohio ..... Medal.
[The Committee commend the machine of B. Kuhns & Co., Springfield.]

MISCELLANEOUS.

Lot of Ox Bows, J. Deere, Moline; commended.
Lot of Axe Handles, Elias Pearson; Salem, commended.
Combined Potato and Corn Planter, Munn & Co., Louisville, Ky; commended.

No. 33—OTHER IMPLEMENTS.

Moffett's Threshing Machine, Clark, Plant & Norris, St. Louis, Mo ..... Medal and 10
[The Committee found it extremely difficult to award on threshing Machines, owing to the excellence of the machines on exhibition.]
Best Horse Power for general purposes, A. Pitts, Chicago ..... Medal and 10
Best Corn and Cob Mill, Wm. Scarlet, Aurora ..... Medal.
Best portable Saw Mill, H. D. Emery & Co., Chicago ..... Medal.
Best Fanning Mill, H. N. Goodrich, Aurora ..... Medal.
Best portable Hay Press, Ingersoll's patent, North Wayne Scythe Company, North Wayne, Maine ..... Medal and 10
Best horse power Corn Sheller, Robinson, Dunham & Co., Peoria ..... Medal.
[The Committee recommend to the favorable notice of farmers the Corn Sheller of Shreffer, Vandersoll & Co., Plainfield, Will county.
Best hand Corn Sheller, Shreffer, Vandersoll & Co., Plainfield ..... Medal.
Best Straw, Hay and Corn-stalk Cutter, G. B. Griffin, Peter & Buchanon, Louisville, Kentucky ..... Medal.

No. 34—HOUSEHOLD IMPLEMENTS.

Best dozen Corn Brooms, Stewart & Milligan, Mount Vernon ..... Medal
Best Churn, Stafford & Roth, Burlington, Iowa ..... Medal
Second best, S. M. Robey, Princeton ..... Ag. Periodical
Best Cheese Vat, H. D. Emery & Co., Chicago ..... Medal
Best Clothes Washing Machine, T. W. Hamilton, Berlin, Green Lake county, Wis... Medal
Second best, E. Brown, St. Louis, Mo ..... Ag. Periodical

MISCELLANEOUS.

Power Corn-stalk Crusher and Cutter, Griffin, Peter & Buchanon, Louisville, Ky.; committee recommend a gold medal.

B. KUHNS & Co., Springfield, Ills.

GRAIN DRILL.

For which was awarded, at the Peoria fair, a diploma and the first premium of the Society.

[Face page 84.

Cider and Wine Mill, G. B. Griffin, Peter & Buchanon, Louisville, Ky.; committee recommend silver medal.
Kedzie's patent Water Filters, James Terry & Co., Rochester; commended.
Convertible Rotating Harrow, V. M. Chaffee, Grayville, Ia.; commended.
Former for bending mould boards, Toby & Anderson, Peoria; committee recommend silver medal.
Knife-cleaning Machine, Joseph Mourdon, St. Louis, Mo.; commended.
The committee commend Sausage Stuffer, Leading Clasps, Ox Bow Keys, Pruning Saw and Chisel, and Coach Wrenches, entered by H. D. Emery & Co., Chicago.
Self-raking Reaper, J. N. A. Womple, Chicago; commended.
Flag Knife and Scythes, North Wayne Company, Maine; commended.
Apple Parer, S. G. Paxton, Marietta, Ohio; commended.
Reaper and Stacker, Murray, Van Doren & Glover, Ottawa; commended.
Tire Setter and Wagon Brake, R. M. Patchin, Springfield.
Portable Fence, Charles Mahan, Centralia; commended.
Corn Husker, D. C. Smith, Tecumseh, Michigan; best.
Deep Tiller Plow, Buford & Tate, Rock Island; commended.
Road Scraper, Scofield & Johns, Albion; best.
Carpet Sweeper; H. H. Herrick, St. Louis, Mo.; an excellent article.
Anti-friction Reaper and Mower, Geo. S. Curtis, Chicago; commended.

CLASS G.

No. 35—FARM PRODUCTS.

Best sample Winter Wheat, A. H. Marshall, Jonesboro..... $5.
Second best, Dan Kimball, Jonesboro.....Ag. Periodical.
Best sample Spring Wheat, M. E. Richard, Carlyle.....Medal.
Best Oats, George Miller, Belleville.....Medal.
Second best, Samuel Hargrave, Jonesboro.....Ag. Periodical.
Best bushel Corn, W. H. Conner, Carbondale.....Medal and 5
Sample of Corn in the ear, S. Hargrave, Jonesboro.....Ag. Periodical.
Best Buckwheat, George Miller, Belleville.....Medal.
Best Timothy Seed, George Miller, Belleville.....Medal.
Second best, J. Snyder, Centralia.....Ag. Periodical.
Best Sweet Potatoes, Brush & Conner, Carbondale.....Medal.
Second best, red Sweet Potatoes, B. L. Wiley, Jonesboro.....Ag. Periodical.
Best lot of Onions, (Shalottes,) George Miller, Belleville.....Medal.
Best Table Turnips, Amos Duffield, Sandoval.....Medal.
Second best, B. L. Wiley, Jonesboro.....Ag. Periodical.
Best three lots Salsafy, L. Ellsworth & Co., Naperville.....Medal.
Best lot Celery, L. Ellsworth & Co., Naperville.....Medal.
Best lot of Tomatoes, Samuel Waters, Urbana.....Medal.
Second best, A. B. Fry, Centralia.....Ag. Periodical.
Best Peppers, Wm. Sculoch, Jonesboro.....Medal.
Best bunch of Beans, George Miller, Belleville.....Medal.
Best and greatest variety of Garden Peas, Mrs. N. R. Thatcher, Naperville.....Medal.
Second best, H. D. Emery & Co., Chicago.....Ag. Periodical.
Japan Peas, Geo. Miller, Belleville; committee recommend a second premium.
Best lot of Squashes, A. B. Fry, Centralia.....Medal.
Best Watermelons, A. M. Pettison, Patoka.....Medal.
Second best, Wm. Hearley, Walnut Hill, Marion county.....Ag. Periodical.

No. 36—FLOUR, STARCH AND MADDER.

Best barrel of Flour..... 5
Second best..... 3
There were several entries under this head, viz: by Samuel Hargrave, Jonesboro; H. Saunders, Carbondale; Deshon & Standing, Cairo, (two;) A. B. West, Vandalia; D. & C. Johnson, Vandalia; and A. Connel, Murphysboro. The Awarding Committee say that they consider the flour excellent, but cannot decide which is best.

MISCELLANEOUS.

Peck Kohl Rabi, C. W. Murtfeldt, Oregon City; commended.
Bee House and Honey, John Cowgill, Kankakee; commended.
Chinese Sugar Cane Candy, Wm. Peverill, Rockford; commended.

Corn on Stalk, A. Robinson, Pulaski county; fine specimen.
Corn Meal, H. Saunders. Carbondale; excellent.
Specimen Corn on Stalk, Wm. Conner, Carbondale; good growth and perfect.
Lot of Upland Rice, A. Conner, Carbondale; a perfect artiele, sehwing that rice of good quality can be grown in Illinois.
Tomatoes, J. D. Wilson, Urbana; fine.
Chinese Sugar Cane, H. McGhee, Caledonia; excellent specimen.
Spring Barley, Geo. Miller, Belleville; good.
Lot of Green Pole Beans, Geo. Miller, Belleville; fine.
Lot of Top Onions, Geo. Miller, Belleville; good.
Great variety of Garden Beans, Mrs. N. R. Thatcher, Naperville; very large variety.
Lot of Garlics, Geo. Miller, Belleville; perfect in their growth.
Prolific Peabody Corn, W. B. Foreman, Nashville; stalks produced several ears.
Large and perfect Sugar Cane Stalks, J. L. Gilbraith, Mount Vernon.

No. 37—HAMS, BUTTER AND CHEESE.

Best Boiled Ham, Mrs. N. Scott, Belleville.....Medal and $5
Best Butter, in tub or firkin, not less than 50 lbs., made at any time during the year, C. W. Murtfeldt, Oregon City.....10
Second best, Charles Rich, Metamora.....5
Best Butter, made in May or June, 20 lbs., Charles W. Murtfeldt, Oregon City.....5
Second best, Monroe Bailey, Argo, Carroll, county.....Medal.
Best Fresh Butter, in roll, 10 lbs., Isaac Heaton, Kilmundy.....Medal.
Second best, Monroe Bailey, Argo.....Ag. Periodical.
Best Cheese, 1 year old and over, C. Rich, Metamora.....5
Second best, Monroe Bailey, Argo.....Medal.
Best Cheese, under 1 year, Monroe Bailey, Argo.....5
Second best, Monroe Bailey, Argo.....Medal.

No. 38—HONEY, SUGAR, BREAD AND CEREAL FOOD.

Best lot of Honey, 10lbs, John Hodges, Salem.....5
Second best, G. Wilgus, Osborn.....Medal.
Best two loaves wheat Bread, Miss S. Klien, Centralia.....5
Second best, Mrs. Julia A. Frazier, Centralia.....2
Best two loaves corn Bread, Mrs. N. Scott, Belleville.....5
Second best, Mrs. Elizabeth B. Irwin, Centralia.....2
Best Sponge Cake, Miss S. Klien, Centralia.....5
Second best, Mrs. N. Scott, Belleville.....2
Best Pound Cake, Mrs. N. Scott, Belleville.....5
Second best, Mrs. M. C. Whiting, Centralia.....2
Jelly Cake, second premium, Mrs. M. C. Whiting, Centralia.....2
Best Crackers, Frank Fields, Peoria.....5
Second best, Mrs. R. T. Coffey, Nashville.....2
Best Cucumber Pickles, Mrs. A. B. Trey, Centralia.....3
Best Pickled Peaches, F. Exter, Shiloh.....3
Best Tomato Catsup, Mrs. S. Francis, Springfield.....3
Best Cucumber Catsup, Amanda Dunning, Cairo.....3

MISCELLANEOUS.

Green Tomato Pickles, Mrs. N. Scott, Belleville; commended.
Tomato Figs, Mrs. Sculock, Jonesboro; commended.
Preserved Tomatoes, same; good.
Gallon Syrup of Chinese Sugar Cane, H. McKee, Caledonia; well worthy commendation.
Twelve Rolls, Mrs. C. A. Harriott, Centralia; fine.
Lot of Rusks, Miss L. E. Masser, Salem; excellent.
Tomato Figs, Mrs. A. B. Milliken, Decatur; commended.
Silver Cake, Mrs. C. M. Whiting, Centralia; nice.
Bee Palace with Bees, J. Cowgill, Kankakee; highly commended.

CLASS H.

No. 39—HORTICULTURAL DEPARTMENT.

SECTION I.

Best display of Evergreens, Samuel Edwards, Lamoille	$10
Second best, F. K. Phœnix, Bloomington	5
Best and greatest variety of Apples, A. Bryant & Son, Princeton	25
Second best, J. W. Ten Brook, Parke county, Iowa	10
Best fifteen varieties of Apples for southern Illinois, J. S. Galbrath, Mount Vernon	15
Second best, A. & F. Starr, Alton	5
Best fifteen varieties of Apples for northern Illinois, A. Bryant & Son, Princeton	15

SECTION II.

Best varieties of Pears, U. Mills, Salem	10
Best and greatest variety of Peaches, A. & F. Starr, Alton	25
Best six varieties of Peaches, A. & F. Starr, Alton	10
Second best, W. Scott, Shiloh	3
Best twelve Peaches, A. & F. Starr, Alton	3
Second best, J. Jennings, Salem	1
Best and greatest variety of Native Grapes, S. Francis, Springfield	15
Second best, Geo. Miller, Belleville	8
Greatest variety of Wild Grapes, Wm. N. Scott, Belleville	Medal.
Best six bunches of Native Grapes, one variety, W. Scott, Shiloh	5
Second best, S. Francis, Springfield	2

MISCELLANEOUS.

Fifty varieties of Peas from Rochester, H. E. Hooker; a good lot of specimens.
Thirty varieties of Peas from Rochester, Elwinger & Barry; fine lot.

SECTION III.

Best can of Peaches, Mrs. S. Francis, Springfield	3
Second best, Mrs. C. G. Simons, Jonesboro	2
Best can of Cherries, Mrs. S. Francis, Springfield	3
Best three bottles of Gooseberries, Mrs. S. Francis, Springfield	3
Best can Raspberries, Mrs. J. Y. Sawyer, Godfrey	3
Best can Strawberries, Mrs. S. Francis, Springfield	3
Best preserved Quinces in sugar, Mrs. J. Y. Sawyer, Godfrey	
Best preserved Apples in sugar, Mrs. S. Francis, Springfield	5
Second best, Mrs. J. Y. Sawyer, Godfrey	3
Best preserved Peaches in sugar, Mrs. J. Y. Sawyer, Godfrey	5
Second best, F. Exter, Shiloh	3
Best Plumbs in sugar, Mrs. J. Y. Sawyer, Godfrey	5
Second best, Mrs. N. Scott, Belleville	3
Siberian Crab Apples in sugar, Mrs. S. Francis, Springfield	5
Second best, Mrs. R. T. Coffey, Nashville	3
Best Pears in sugar, Mrs. S. Francis, Springfield	5
Second best, Mrs. M. M. Watts, Centralia	3
Best preserved Cherries, Mrs. S. Francis, Springfield	5
Second best, Mrs. J. Y. Sawyer, Godfrey	3
Best preserved Citron Melon, Miss Sarah Klien, Centralia	
Second best, Mrs. J. Y. Sawyer, Godfrey	3
Best Crab Apple Jelly, Mrs. S. Francis, Springfield	3
do do do Mrs. L. P. Jennings, Centralia	3

[Two awards alike in this case.]

Mrs. A. K. Corey, the committee recommended should receive a premium of $2 for Wild Plum Jelly.

Best Plum Jelly, Mrs. S. Francis, Springfield	2
Best Quince Jelly, Mrs. J. Y. Sawyer, Godfrey	4
Best Red Currant Jelly, Mrs. S. Francis, Springfield	3
Best Apple Butter, A. J. Mills, Salem	5
Best Peach do F. Exter, Shiloh	5

MISCELLANEOUS.

Preserved Currants, Mrs. S. Francis, Springfield; premium of $2 recommended.
Preserved Raspberries, Mrs. S. Francis, Springfield; premium of $2 recommended.
do do Mrs. N. R. Thatcher, Naperville; premium of $2 recommended.

Blackberry Jelly, do Jam, do Caned, Mrs. A. B. Millikin, Decatur; premium of $2 recommended in each case.
Wild Crab Apples in sugar, Mrs. R. T. Coffey, Nashville; premium of $3 recommended.
Very large Blackberries (dewberries,) in alcohol, U. Mills, Salem.
Pear Butter, A. J. Mills; commended,

SECTION IV.

Best Red Currant Wine, Mrs. N. R. Thatcher, Naperville	$5
Second best, Miss Sarah Klien, Centralia	
Best Black Currant Wine, Mrs. N. R. Thatcher, Naperville	5
Best Rhubarb Wine, Chas. Needham, Plainfield	5
Second best, Mrs. S. Francis, Springfield	2
Best Blackberry Wine, Mrs. H. C. Johns, Decatur	5
Second best, F. Exter, Shiloh	2
Cherry Wine, Mrs. N. R. Thatcher, Naperville	5
Black Raspberry Wine, Mrs. N. R. Thatcher, Naperville	2

SECTION V.

Best and greatest variety named Flowers, L. Ellsworth & Co., Naperville	5
Best variety named Dahlias, L. Ellsworth & Co., Naperville	5
Second best, Thomas Nelson, Sparta	3
Best twelve Dissimilar Blooms, L. Ellsworth & Co., Naperville	5
Second best, Thomas Nelson, Sparta	3
Best six Dissimilar Blooms, L. Ellsworth & Co., Naperville	3
Second best, Thomas Nelson, Sparta	1
Best and greatest variety of named Roses, L. Ellsworth & Co., Naperville	10
Second best, Reynolds & Kennicott, Odin	5
Best twelve varieties named, L. Ellsworth & Co., Naperville	5
Second best, Reynolds & Kennicott, Odin	3
Best and most varieties, L. Ellsworth & Co., Naperville	5
Second best, Samuel Waters, Urbana	3
Best and greatest varieties of Asters, L. Ellsworth & Co., Naperville	Floral Book.
Best display of Gladiolus, Reynolds & Kennicott, Odin	Floral Book.
Best variety of Petunias, L. Ellsworth & Co., Naperville	Floral Book.
Best collection of Green House Plants, L. Ellsworth & Co., Naperville	20
Best Fuschias, ten varieties, L. Ellsworth & Co., Naperville	10
Best display of Pansies, L. Ellsworth & Co., Naperville	3
Best and most tastefully arranged Cut Flowers, F. K. Phœnix, Bloomington	Floral Book.
Second best, Reynolds & Kennicott, Odin	Periodical.
Best arranged flat Boquet, Reynolds & Kennicott, Odin	Floral Book.
Second best, Mrs. A. K. Corey, Centralia	Periodical.
Best pair Vases of Cut Flowers, Reynolds & Kennicott, Odin	
Best pair round Boquet, Reynolds & Kennicott, Odin	Floral Book,
Second best, Mrs. A. K. Corey, Centralia	Periodical.
Best specimens Wild Flowers, thirty varieties, Miss Allice M. Kennicott, West Northfield	5
Best and greatest variety of Dried Plants and Herbs, Ruth Fenner, Fremont	10

Variety Dried Plants and Herbs, not named, Benj. Vancil, South Pass; premium recommended.

MISCELLANEOUS.

A large lot of Bulbs, F. K. Phœnix, Bloomington; highly creditable.
Great display of Phloxes, Reynolds & Kennicott; committee recommend Floral Book.
A large display of Coxcombs, by the same.
A handsome display of Funkies, Reynolds & Kennicott, Odin; worthy of a premium.

CLASS I.

No. 40—ENGINES, MACHINERY, ETC.

Best Steam Engine for farm use, Clark, Plant & Norris, St. Louis, Mo	25

Portable Steam Engine for threshing and farm purposes, eight horse power, Owens, Lake & Dyer, Hamilton, Ohio; was highly commended.

Best contrivance to prevent the explosion of Steam Boilers, Clark, Plant & Norris, St. Louis, Mo	Medal.

Under-ground Draining Machine, T. N. Zimmerman, Le Roy, Coles county; highly commended.
Best Pump for farm use, Boyer, Brotherton & Co., Mount Carroll.....Medal.
Best Water Ram, Thomas George & Co., Chicago; highly commended.....Medal.
Best Sewing Machine, Wheeler & Wilson's, G. W. R. Chittenden, Chicago..... .....Medal.
Harris' Sewing Machine, O. Holden, Chicago; was highly commended as a good and cheap machine.
Best Spoke Dressing Machine, S. Draper, Troy, N. Y.....Medal.

MISCELLANEOUS.

Soda Fountain, F. Frankenberg, Columbus, Ohio; highly commended.
Samples of Tin Ware, Jappaned Ware, Old Dominion Coffee Pot, Self-sealing Cans, Thos. George & Co., Chicago; all commended.
Saw Gummer, W. C. Ward, Athens; this invention was highly commended.
Brown's Unchangeable Bee Hive, J. Kent, Baltimore, Md.; highly commended.
Specimen of mechanical ingenuity in a bottle, Paul Frick, Jonesboro; very ingenious.
J. C. Foster's patent Water Drawer, J. C. Foster, Union, Tenn.; commended.
D. W. Phelp's Combination Bee Hive, H. B. Gifford, Danby; commended.
Best Labor Saving Machine, Clark, Plant & Norris, St. Louis, Mo.; highly commended.
Bee Hive, J. A. Carpenter, Waukesha, Wis.; commended.
Combination Pliers, W. Hart, Mayville, Wis.; commended.
Improved Blacksmith's Tongs, by same; commended.
Model for a Lime Kiln, E. H. French, Anna; commended.
Patent Angular Bit Holder, H. H. Luddengton, St. Louis, Mo.; highly commended.
Fairbank's Scale Beam, Iron Frame Track Scale, 1000 Bright Beam, 1500 Brass Beam, Wheat Beam, set of Weights, Druggists' Scales, Post Office Scales, Counter Scales, Portable Platform Scales, Dormant Floor Scales, Flour Packing Scales, Dormant Warehouse Scales, Six Ton Stock Scales, Rolling Mill Scale, all entered by E. & F. Fairbanks, St. Johnsburg, Vt.; all received a thorough examination by the committee, and their unqualified commendation.
Sugar Mill, H. J. Cox, Hamilton county, Ohio; commended.
Sugar and Cider Mill and one horse Cider Mill, by same; commended.
Hominy Mill, J. Donaldson, Mount Morris; commended.
Langstroth's Movable Bee Hive, John Cox, Clintonville; commended.
Water Ram, H. D. Emery, Chicago; commended.
Patent Gridiron, Thomas George & Co., Chicago; commended.
Patent Coffee Roaster, by same; commended.
Gilmore's Patent Bee Hive, John Cowgill, Kankakee; commended.
Smith & Stonefice's Lard Lamp, Reuben Miller, Lincoln; commended.
Langstroth's Improved Bee Hive, J. L. Wolcott, Bloomington; commended.
Model of Pettingill's Patent Steam Boiler, J. W. Pettingill, Rockford; commended.
3½ Ton Hay Scales, P. W. Gates & Co., Chicago; commended as second best.
Sugar Mill, by same; recommended for large establishments.
Portable Platform Scales, Counter Scales, Grocer Scales, Platform Counter Scales, entered by P. W. Gates & Co., Chicago; were examined by the committee and received their high commendation.
Letter Presses, P. W. Gates & Co., Chicago; commended.
Warehouse Trucks, P. W. Gates & Co., Chicago; commended.
Model Machine for sawing Broom Handles, &c., J. R. Whitaker, Robinson; commended.
Saw Gummer, W. H. Jones, St. Louis, Mo.; commended.
Polychromatic Press, S. P. Rounds, Chicago; commended.
Fire Proof Safe and Band Vault, Elderly's, Troy, New York; highly commended.

No. 41—ALL APPARATUS OF FINE WORKMANSHIP.

Best display of Philosophical and Mathematical Instruments, W. & L. E. Gurley, Troy, New York.....Medal.
Best Theodolite, W. & L. E. Gurley, Troy.....Medal.
Best Level, W. & L. E. Gurley, Troy.....Medal.
Best Surveyor's Compass, W. & L. E. Gurley, Troy.....Medal.
Best Stereoscope, W. North, New Orleans, La.....Medal.
Best Barometer, James Terry & Co., Rochester, N. Y.....Medal.

MISCELLANEOUS.

Odomater, George Lindley, Chicago; commended.

No. 42—FINE WORKED METALS.

Lot Soldered Cans, J. Q. C. Searle, Anna; commended.

No. 43—STOVES, &c.

Best and greatest display of Cooking Stoves, W. Resor & Co., Cincinnati, Ohio.....Medal.
Best Cook Stove for Wood, (Brown & Kent's,) Joseph Kent, Baltimore, Md.....Medal.
Best Cooking Range, *Morning Star*, Thos. George & Co., Chicago.....Medal.
Best Church Bell, P. Caughlan, St. Louis, Mo.....Medal.
Best Steamboat Bell, P. Caughlan, St. Louis.....Medal.
Best lot of Brass Work, J. Goodlaw, Mound City.....Medal.
Winship's Refrigerator, Thos. George & Co., Chicago.....Medal.

No. 44—VEHICLES.

Best display of choicest Carriages, G. A. Smith, Decatur..... $10
Best display of choicest Buggies, G. A. Smith, Decatur..... 10
Second best, Variet & Corning, Highland.....Medal.
Best two horse Carriage, G. A. Smith, Decatur..... 5
Best Carriage, for one or two Horses, G. A. Smith, Decatur..... 5
Best Top Buggy, Wild & Horrink, Highland..... 5
Second best, Calvin Bowley, Rockford.....Medal.
Best Open Buggy, G. A. Smith. Decatur..... 5
Second best, Variet & Corning, Highland.....Medal.

MISCELLANEOUS.

Lockport Band Carriage; highly commended.
Best set of Buggy Wheels, Woodburn & Scott, St. Louis, Mo.; commended.

Nos. 45, 46—CABINET WARE—CARPENTERS' WARE.

Best Panel Door, W. D. Hutchens, Centralia.....Medal.

MISCELLANEOUS.

Cedar Bedstead, H. C. How rd & Co., Mound City; medal recommended.
Set Camp Chair and Camp Bedstead, H. D. Emery & Co., Chicago; medal recommended.
Model Patent Invalid Bedstead, David Kreitzen, Chicago; medal recommended.

Nos. 47, 48—FURRIERS, CURRIERS, &c.

Ladies' Riding Saddle, J. D. Wilson, Urbana.....Medal.

MISCELLANEOUS.

Set of Light Harness, H. Gouder, Nashville; medal recommended.

No. 49—WORKED METALS.

Best six Axes, H. D. Emery & Co, Chicago.....Medal.
Best Target Rifle, C. W. Webster, Salem.....Medal.
Best Fowling Piece, (Needle's,) C. Smith, Bloomington.....Medal.
Best Bank Lock, Lewis Little, Troy, N. Y.....Medal.
Best set of Horse Shoes, A. Somerville, Centralia.....Medal.
Best Bolt, G. J. Gatchell, Rushaway, N. J.....Medal.
Best Log Chain, H. D. Emery & Co., Chicago.....Medal.
Best Trace Chain, H. D. Emery & Co., Chicago.....Medal.

MISCELLANEOUS.

One Four Pound Cannon, made of wrought iron scraps, by David Oxley, Centralia, at the machine shop of Central Railroad; a beautiful piece of work.
Fire and Burglar Proof Safe, Lewis Little, Troy, N. Y.; worthy of first premium.
Bank Vault, Lewis Little, Troy, N. Y.; highly commended.
Portable Gas Generator and Burner, A. M. Mase, Springfield, Mass.; worthy of first premium.

CLASS K.

Nos. 50, 51—PAINTINGS, &c.

Best Painting, group of cattle, in oil, E. Troye, Artist.....Medal.
Three views of one animal, in oil, E. Troye, Artist.....Medal.
Best Animal Painting, in water colors, M. Hendricks, Mattoon.....Medal.
Twelve specimens of Fruit Painting, Mrs. G. H. Blelock, Centralia.....Medal.
Best Ambrotypes, Wm. B. Mathers, Centralia.....Medal.
Monochromatic Paintings, Miss M. L. Henkle, Decatur.....Medal.
Best Fancy Painting, in oil, Miss C. G. Simonds.....Medal.
Second best, Mrs. J. M. Hawley, Centralia.....Medal.
Best specimen Typography, C. H. Brainard, Boston, Mass.....
Best Crayon Drawing, L. Maria Ray, Richview.....Medal.
Second best, Mrs. P. Reas, Centralia.....Medal.
Best specimen of Penmanship Bryant & Stratton, Chicago.....Medal.
Second best, O. A. Pennoyer, Rockford.....Medal.
Architectural Drawing, F. A. Lietze.....Medal recommended.
Map of Fair Grounds, F. A. Lietze.....Medal recommended.
Architectural Drawing, J. T. & W. Smith, Mattoon.....Medal.

MISCELLANEOUS.

Citizens Band of Lockport; first premium recommended.
Periodicals of Illinois, a copy each, for 1857 and '58, bound in volumes, S. Francis; first premium recommended.
Specimens of card writing, W. H. Genin, St. Louis, Mo.; commended.
Pen and Ink Drawing Landscape, M. Dilly Fay; medal recommended.
Oriental Painting, Mrs. M. C. Whiting, Centralia; commended.
Historical Design, H. S. Blanchard, Centralia; commended.
Portrait, M. Friedman, Cincinnati, Ohio; fine.
Oriental Painting, Mrs. J. C. Larose, Centralia; very beautiful.
Grecian Heads, Mrs. S. Pease, Centralia; worthy.
Painting on Glass, Miss Mary L. Henkle, Decatur; handsome.

CLASS L.

Nos. 52, 53—HOUSEHOLD FABRICS.

Best pair Woolen Blankets, Miss N. L. Melin, Xenia.....Medal.
Second best, M. A. Goodman, Jonesboro.....Medal.
Best Woolen Carpet, I. Heaton, Kilmundy, Marion county..... $5
Best Rag Carpet, Mrs. B. Sculock, Jonesboro..... 5
Best double Coverlet, Mrs. M. S. Spencer, Tamaioa..... 5
Best single Coverlet, Mrs. M. C. Whiting, Centralia..... 5
Best 10 yards Jeans, Mrs. J. S. Hough, Salem..... 3
Best Woolen Stockings, Miss S. W. Stacy, Jacksonville.....Medal.
Best pair Cotton Stockings, Miss M. M. Dorsey, Upper Alton.....
Best Netting, Miss Josephine Moore, Central City.....Medal.

MISCELLANEOUS.

Lot of Cordage, made by Jacob Schilling, Springfield; the committee recommended a medal.
Vest Pattern, J. N. Melin, Xenia; highly commended.

No. 54—NEDLE-WORK, ETC.

Best plain Needle-Work, Mrs. T. H. Elmore, Joliet..... $5
Best plain Needle-Work by girl under 14, Miss Mary Priest, Springfield..... 5
Best specimen of Darning and Repairing, Mrs. M. M. Vandeusen, Springfield..... 5
Second best, Mrs. T. H. Elmore, Joliet..... 2
Best knit Cotton Hose, Mrs. T. H. Elmore, Joliet..... 2
Best knit Woolen Hose, Sarah W. Stacy, Jacksonville..... 2
Best fancy Hose for child, Mrs. Wm. Brown, Jacksonville..... 2
Best white Quilt, Mrs. Thos. H. Foster, Jacksonville..... 3
Second best, Mrs. T. E. Peck, Mound City..... 2

Best patch-work Quilt, Mrs. T. P. Wescot, Mt. Vernon	$5
Second best, Miss Mary E. Wilderman, Belleville	3
Best embroidered Toilet Cushion, Mrs. Guy C. Clark, Centralia	5
Best plain Toilet Cushion, Mrs. T. H. Elmore, Joliet	5
Second best, Mrs. A. K. Cory, Centralia	3
Best ornamental Needle-work, Mrs. T. H. Elmore, Joliet	5
Best Worked Collar, Mrs. Mary E. Bull, Upper Alton	5
Second best, Mrs. Mary E. Bull, Upper Alton	3
Best needle-worked Handkerchief, Mrs. M. M. Vandeusen, Springfield	5
Second best, Mrs. Mary E. Bull, Upper Alton	3
Best needle-worked Infant's Dress, Mrs. M. C. Whiting, Centralia	5
Best needle-worked Skirts, Mrs. M. A. Eads, St. Louis, Mo	3
Best needle-worked Cap, Mrs. T. H. Elmore, Joliet	3
Best Silk Embroidery, Mrs. Guy C. Clark, Centralia	3
Best Worsted Embroidery, Miss S. M. Cortelyon, Centralia	3
Best Worsted Embroidery by child of 8 years, Mary A. Roke, Richview	3
Best worked Ottoman Cover, Miss Sarah Rider, Fairfield	3
Best worked Chair Cover, Jenny Hunting, Richview	3
Best worked Embroidery for chair cover, Mrs. A. H. Edson, Centralia	3
Best specimen Crotchet Work, Miss E. Lamb, Springfield	3
Best pair Slippers, Mrs. A. H. Edson, Centralia	3
Best fancy Work Basket, Sarah Griffith, Decatur	3
Best fine Basket, Mrs. A. K. Cory, Centralia	3
Best embroidered Shawl, Mrs. E. Aldrich, (no post-office stated)	3
Best embroidered Child's Dress, Miss S. Rider, Fairfield	3
Best made fine Skirt, Mrs. T. H. Elmore, Joliet	3
Best specimen of Flowers in pair, M. Friedman, Centralia	2
Best case Bonnets, Mrs. J. S. Allen, Centralia	5

MISCELLANEOUS.

Chair Bottom Cover, Mrs. T. H. Elmore, Joliet; commended.
Wax Flowers, Mrs. B. Holcomb, Centralia; commended.
Silk Hose, Miss H. Israel, Jacksonville; premium of $5 recommended.
One Balloon, belonging to S. W. Brooks, of Centralia; apparently a perfect work of its kind.

NOTE.—Some extraordinary circumstances connected with this balloon will be found in the narrative appended:

ASCENSION OF THE TWO HARVEY CHILDREN, &c.

As there have been several different accounts published about the balloon ascension of the two children, after my aerial voyage from Centralia, and most of them very incorrect, I have concluded to give the facts as they occurred.

Mr. Brooks, being indisposed, permitted me to take his place, which I cheerfully accepted. As the balloon passed rapidly upward, I was carried to the north-west, until I reached the hight of nearly two miles. Meeting with an eastward current, I was wafted slowly over the Fair Grounds, and remained nearly fifteen minutes directly over Central City. I then discharged several pounds of ballast, and ascended a mile higher, where I found a stronger current blowing to the eastward. I could now distinctly see the Mississippi, with several steamboats floating on its bosom. Centralia, which is about one mile and a half from the Fair Grounds, appeared but a few rods, and the cars seemed to move with the speed of an ox team. The largest prairies were diminished to good-sized farms. The whole country for a hundred miles around, with its rivers, towns, fields and forests, looked like an immense concave map spread beneath me.

Soon after witnessing one of the most splendid sunsets my eyes ever rested upon, I found myself slowly descending upon a large forest. I regretted very much to find the ascension power giving out so soon, as I had anticipated a long and pleasant journey by moonlight. In fact, I had prepared myself with sufficient clothing to reach the Atlantic Ocean, if the aerostat would carry me there.

After feasting for an hour upon one of the most gorgeous views that nature in all her loveliness can present, I amused myself by perusing some newspapers that were given to me to distribute on the way.

I threw out ballast when I had descended within half a mile of the earth, and soon went up to the hight of three miles, where I remained until near dark, when the power of my machine again gave out, as it was not well coated with varnish; and I descended in a field on the farm of Benjamin B. Harvey, about seventeen miles from Centralia, and three from Rome. The grappling iron caught in a small tree, and Mr. Harvey and son came to my assistance. They then took hold of the anchor rope and drew the aerostat, while I remained in the car, to the house. Mr. Harvey's family and some of the neighbors soon

collected around the balloon, and seemed as much astanished as the Digger Indians and the descendants of Montezuma were at my ascensions from Mexico and California. As they had never seen the "elephant," or rode on his back, some of them concluded to take a ride in the balloon. Accordingly, the anchor was made fast to the fence. Mr. Harvey mounted the car, while his sons and some of the neighbors let him up a few feet by holding on the rope. I warned them several times to hold fast to the rope, as the air-ship might slip her anchor and leave them in the lurch.

After Mr. Harvey had satisfied his curiosity in balloon riding, he placed his three youngest children—two girls and a little boy—in the car. While he and his sons managed the balloon I stepped one side to converse with the ladies, who were asking me many questions about my aerial voyage. After the three children had remained in the car a few moments, Mr. Harvey took out the oldest daughter, which gave the balloon so much power that it jerked away from them and the fence in an instant, and in a minute was out of sight, leaving us completely overcome with fear and amazement at an accident of so novel and thrilling a character. The emotions of the parents may be more easly imagined than decribed when they heard them cry, "Mother, let me down; mother, let me down," until they had disappeared apparently among the stars, and could be heard and seen no more. I informed them that the balloon was not very tight and would come down, I thought, in one or two hours, and not go more than ten or twenty miles away, as there was but little or no wind at the time. Although it went toward the northwest when it ascended, I told them I thought it would go east, in the same direction in which I came from Centralia. I informed them that there would be no danger of the children falling out of the car, as the ropes were too numerous and close. The most I feared was, that they might come down in a large forest and not be easily found. I advised them to arouse the neighborhood for at least ten miles round, particularly to the east, as I believed the balloon would go in that direction. Mr. Harvey gave me his horse to ride back to Centralia to have the news sent by telegraph and railroad in every direction. I reached Centralia about 12 o'clock at night, and in the morning had an extra published and the news spread as soon as possible. Mr. Knowles and I went in search of them on Saturday, and were told by different persons that the balloon was seen passing toward the west in different places from eight to ten o'clock at night. Saturday evening it was reported that they were found safe several miles from where they went up, but it was not known to a certainty where they were found—at Centralia—until Sunday morning, when it was ascertained that they had safely descended about 18 miles southeast of Mr. Harvey's, near Mr. Atchison's house, suspended in the air, the anchor having caught in a tree.

Saturday morning Mr. Atchison had got up early to look at the comet or "blazing star," as he termed it, and discovered the balloon, when the little girl called to him to pull them down, telling him to do it "easily." The little boy was found asleep. The little girl said her brother complained of being cold when they were very high.

She did not pull the valve-string. The balloon remained in the air probably longer than I did, as it had more ascensive power in proportion to its weight.

A brother of the children gave me their names and ages—Martha Ann being eight and David three years.

The joyful news reached their parents about two o'clock on Saturday, and the children came home the same evening, on which occasion the rejoicing must have been equal to the sorrow which had so lately preceded it.

SAMUEL WILSON.

CLASS M.

No. 55—NATURAL HISTORY.

Best suit of Minerals, S. S. Condon, Jonesboro..... $10
Botanical Collection of Illinois, George Rarey, Ringwood, McHenry county; most admirably preserved and highly creditable collection.
Best Collection of Native Fruits of Illinois, Wm. M. Wood, Central City..... 5
Second best, W. W. Bennett, Jonesboro.....Medal.

Nos. 56, 57 and 58—CHEMICALS, Etc.

Best Vinegar, J. Palmer & Co., Chicago.....Medal.
Vinegar exhibited by N. Scott, Belleville; excellent.
Best specimen of Stone Ware, C. Kirkpatrick & Co., Mound City.....Medal.
Best Terra Cotta, same.....Medal.
Best Flower Vases, same.....Medal.
Best manufactured Poplar Shingles, J. McCord.....Medal.
Best Poplar Floor Plank, Flaugh & Bro., Jonesboro.....Medal.

MISCELLANEOUS.

Potters' Clay, C. Kirkpatrick & Co., Mound City; premium recommended.
Oakum, C. Kirkpatrick & Co., Mound City; commended.
Composition Roofing, Wm. M. Parke, Belleville.
Specimens Terra Cotta, C. Kulsolnch, Mound City; commended.
Clay Drain Pipe, C. Kirkpatrick & Co., Mound City; well made.
Bundle Butternut Shingles, Pine Shingles, Poplar Shingles, Cedar Shingles, Ransom & Co., Chicago; all superior articles.
Poplar Shingles, Samuel Spence, Walbridge; commended.
Collection of Fossils, S. S. Condon, Jonesboro; premium recommended.
Boxes Hutchinson's Soda Water, T. O. Dunn, Chicago; a premium recommended.

CLASS N.

No. 59—PLOWING MATCH.

First premium, R. Mills, Salem; plow made by John Deere, Moline	$15
Second premium, B. Burt, Champaign county; plow made by Boyden & Osfield, Urbana	8

The Committee on Class N, No. 59, report—

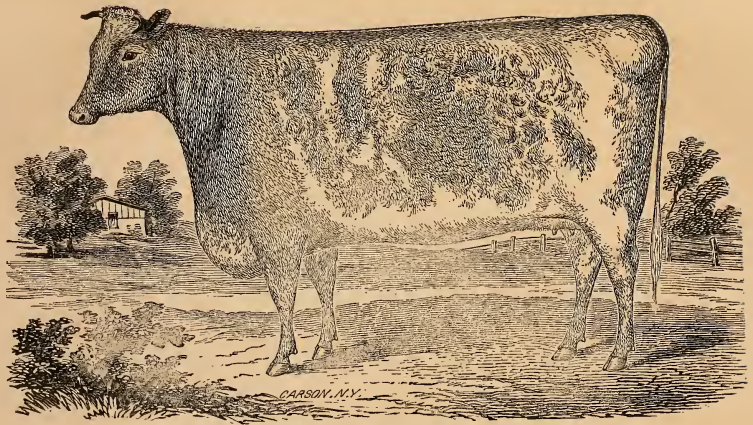
That they have awarded the first premium of $15 to R. Mills, for the best plowing. The work was performed with an old ground plow made by John Deere, of Moline, Rock Island county, entry No. 12.

The second premium of $8, they have awarded to B. Burt, whose work was performed with an old ground plow made by Boyden & Osfield, of Urbana, Champaign county.

Among those in competition was a double Michigan plow made by John Deere, of Moline, Rock Island county, which performed very superior work. Your Committee was much pleased with it, but did not think it was the design of the Society to place such plows in competition with common old ground plows.

There were many plows entered for competition which did good work and are highly deserving of commendation, but as the duties of your Committee were limited to a decision as to the merits of the different plowmen, your Committee will leave a decision upon the comparative merits of the plows to the appropriate Committee.

JAMES CURTIS,
JAMES M. RODGERS,
FELIX SCOTT,
DAVID PARDEE,
O. B. NICHOLS,
LINSEY CARTER.



RACHEL, 2nd.

Red roan. Bred by S. Bolden, Springfield Hall, Lancaster, England. Imported by Illinois Importing Association, in 1857. The property of James N. Brown, Grove Park, Berlin, Sangamon county, Illinois. Calved July 5, 1855. Got by Duke of Bolton (12,738,) out of Young Rachel, by Leonard (4210); Rachel, by Young Red Rover (4905); Rally, by Rowton (5019); Young Carnation, by Admiral (5); Carnation, by Pilot (496); White Rose, by Albion (14); Halnaby, by Lame bull (359); ——, by Easby (232); ——, by Suwarrow (636).

RACHEL, 2ND, was a premium cow at Centralia fair, 1858.

[Face page 95.

STATEMENT of the amount of milk and butter made from one cow, by Cyrus Jones, of McLean county, during a period of twenty days—The first ten days, from the 5th to the 15th of June—Second ten days, from the 5th to the 15th of August:

The age of the cow was eight years. Breed, three-fourths blooded Durham. She had a calf on the 20th of March. The amount of milk in weight for the first ten days was five hundred and sixty pounds, and measuring five hundred and eighty pints; or twenty-eight pounds at each milking, making fifty-six pounds per day; or twenty-nine pints at each milking, making fifty-eight pints per day.

The amount of milk for the ten days in August, was five hundred pounds, measuring five hundred and twenty pints; or twenty-five pounds at each milking, making fifty pounds per day; or twenty-six pints per milking, making fifty-two pints per day.

The amount of butter made in the first ten days (in June), twenty-two and a half pounds, being two pounds and two and a half-tenths per day.

The amount of butter made in the last ten days (in August), was twenty and three-fourth pounds—making in the twenty days forty-three and a quarter pounds.

I, Cyrus Jones, of the county of McLean, and State of Illinois, certify that the statement is correct,

Subscribed and sworn to before me this 30th day of August, 1858.

JOHN N. KING, *J. P.*

REPORTS OF COMMITTEES.

The Committee on Class A, No. 5 (Natives and Crosses), would say that there are but very few inferior animals in this class, while the competition was strong, embracing stock from other States than Illinois, and that some of the animals would nearly disgrace thorough breds.

J. PERRIAM, *Chairman.*

The Committee on Class A, No. 7, would state that the best three fat bullocks were very extraordinary animals, and that the next best were so good that they would have been fully entitled to a first premium, in the absence of the first; and would respectfully recommend a premium to them as worthy animals.

J. PERRIAM, *Chairman.*

In the Class of Work Oxen there was but one yoke that required special commendation—that of Mr. Webster. The steers, 2 years old, by C. W. Webster, jr., 9 years old, were most excellently handled.

J. PERRIAM, *Chairman.*

The Committee on Class D. (Swine) beg leave to report, that under the general classing of all varieties of hogs in one class, they could not do the justice in their awards which they desired. Under the circumstances, they have done the best they could. They recommend that in future the premiums shall be offered for different varieties—the breeds being distinctly separated.

The Committee would say also that the show of hogs is far superior to any exhibition at any previous State Fair held in this State.

A. BECRAFT, *Chairman.*

MEETING OF THE EXECUTIVE COMMITTEE.

CENTRALIA FAIR GROUNDS, *Sept.* 13, 1858.

The Executive Committee met on the Fair Grounds.

Present—C. W. Webster, President; J. N. Brown, Ex-President; S. A. Buckmaster, A. B. McConnell, H. S. Osborn, Wm. Kile, Vice-Presidents; S. Francis, Corresponding Secretary and Phill Warren, Recording Secretary.

On motion,

Resolved, That the Superintendent of the Horse Department is hereby instructed to make such additional classification in his department as he may consider necessary.

Resolved, That the Corresponding Secretary make arrangements for an intelligence office on the grounds.

Resolved, That W. Kile and S. A. Buckmaster be a committee to examine the seats erected around the show ring, in order to ascertain if they are sufficiently well built to insure the safety of the occupants.

September 16, 1858.

The Committee met and adopted the following resolutions:

Resolved, That A. B. McConnell be sustained in the appointment of Committee of Awards on Sheep.

Resolved, That the President and Corresponding Secretary be and they are hereby instructed to petition the next legislature to make a perpetual appropriation of a certain portion of the seven per cent. fund paid by the Illinois Central Railroad Company, to this Society—to be paid by them in premiums to the exhibitors of agricultural and mechanical articles, and to suggest the propriety of so appropriating the balance as to combine the greatest interests in this State against the probability of the repeal of that portion of their charter.

CENTRALIA, *September* 17, 1858.

Committee met.

C. W. Webster, President, in the chair.

On motion,

Resolved, That we defer action in regard to the premiums recommended in the Miscellaneous Department until our January meeting.

The bills of expenses at the State Fair having been audited, On motion, the following resolutions were adopted:

Resolved, That we congratulate the people of this State, and of Southern Illinois, on the successful close of the Sixth Annual Fair of the Illinois State Agricultural Society, at Centralia.

Resolved, That this success has been achieved, in a great measure, by the energetic action of the committee of citizens of Centralia, in fitting up the grounds for the Fair, and securing accommodations, board and lodging, for the large number of people in attendance. The demands for lodgings in Centralia were not equal to the supply; the food furnished was ample and excellent; and, indeed, the results of the great Fair at Centralia prove that State Fairs can be made successful, without a compulsory resort to the neighborhood of large cities for their location.

Resolved, That our thanks are also due to the citizens of the country adjacent to the Fair, and of the towns on the line of the Central and Ohio and Mississippi Railroads, for the extensive accommodations furnished by them to the vast numbers of strangers during the week of the fair.

Resolved, That the State Fairs of Illinois cannot be successful without the aid and co-operation of the railroad companies; and that we acknowledge with gratitude the unprecedented liberality of the Illinois Central Railroad, and the great benefit derived from the facilities furnished by the Ohio and Mississippi, the Terre Haute and Alton, the Great Western, the Chicago, Alton and St. Louis, the Peoria and Oquawka, the Peoria and Oquawka Extension, the Chicago and Burlington, and the St. Paul and Fon du Lac Railroads. Whatever secures the settlement and improvement of the country, benefits our railroads. The interests of our people and of the roads are one. May a liberality on the part of both be perpetual.

Resolved, That James C. Clark, Esq., Superintendent of the Central Railroad; Phineas Pease, Esq., Superintendent of the Southern Division; Thomas Wright, Esq., Freight Agent at Centralia, and other agents of the road, located at that point, are entitled to receive, and do receive, our unfeigned thanks for their ready co-operation in the efforts of the Executive Committee and the Committee of Centralia, to make the Southern Illinois State Fair a marked success, and an epoch in the history of Southern Illinois.

Resolved, That a public expression of our obligations is due to the committee of citizens of Centralia—R. D. Noleman, A. K. Cory, J. M. Hawley, H. K. S. Omelveny, A. J. Piercy, T. J. Evans, M. C. Kell and N. D. Ingraham—for the courteous and efficient manner in which they performed their obligations to the Society, in preparing the grounds and fixtures for the State Fair.

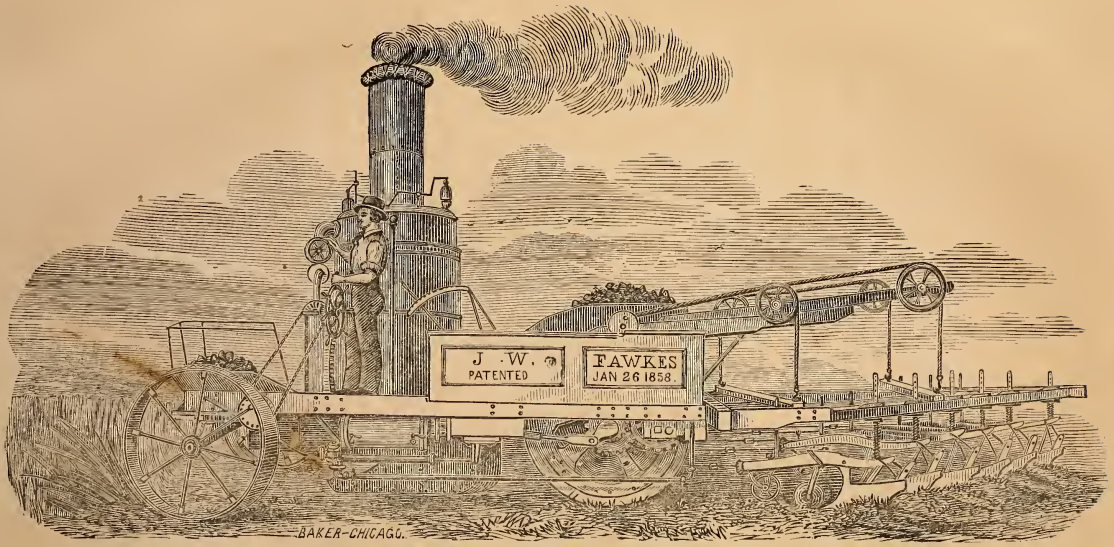
Resolved, That we acknowledge the liberality of Messrs. Omelveny and Gall, in furnishing, for the State Fair, their beautiful grounds. A lovelier spot for that purpose could not be found in the State.

Resolved, That we recognize our obligations to the Press of this State, for their valuable services in behalf of the State Fair.

Resolved, That in closing our proceedings here, the Executive Committee congratulate each other on the distinguished success of this Annual Fair. They believe that its influence will be felt here, in bringing Southern Illinois more prominently before the public as a desirable region for settlement and agricultural enterprise—in introducing new breeds of stock, and agricultural machinery, designed to lessen the labors and increase the profits of the farmer—in uniting the citizens of the North and South in harmonious action for the public good—in satisfying all of us that we are one people—that our interests are one—that our State, from its extreme north to its southern termination, and from its eastern to its western boundary, is, beyond all others, rich in agricultural resources, and must soon take a front rank in wealth and population with the leading States of the Union.

Resolved, That we thank J. W. Fawkes, Esq., for the exhibition of his Steam Plow at our Fair. It was not as perfect an instrument as Mr. Fawkes designs to make it; but it settled the question that the Steam Plow can be made successfully to work on our prairies. The animated scene presented on its introduction upon the Fair Grounds will scarcely be forgotten. The Steam Plow has begun its work in Illinois. Who will limit its future?

Resolved, That we now adjourn, to meet in Springfield on the third day of January, 1859.



FAWKES' STEAM PLOW.

A gratuity of $500 was awarded the inventor of this plow, on trial at Decatur, November 10, 1858. The engraving was furnished for the Transactions by H. D. Emery & Co., Chicago.

[Face page 99.

EXHIBITION OF STEAM PLOWS.

ILLINOIS STATE AGRICULTURAL SOCIETY,
OFFICE CORRESPONDING SECRETARY,
Springfield, October 7, 1858.

By direction of the Executive Committee of the State Agricultural Society, the 10th of November next has been fixed upon as the time and Decatur as the place for the exhibition of Steam Plows.

All manufacturers of other plows in this State are invited to be present, at that time and place, with their plows for exhibition and trial.

Ample accommodations will be found at Decatur for the great numbers of people expected there to witness the interesting exhibition.

Dr. H. C. Johns, Decatur, will take charge of all plows sent by railroad for trial, directed to his care.

S. FRANCIS,
Corresponding Secretary Illinois State Agricultural Society.

MEETING OF THE EXECUTIVE COMMITTEE.

DECATUR, *November* 10, 1858.

Present—C. W. Webster, President; H. C. Johns, Ex-President; J. E. McClun and Wm. Kile, Vice Presidents; and S. Francis, Corresponding Secretary.

On motion, S. Francis was appointed Recording Secretary *pro tem.*

On motion,

Resolved, That having witnessed the performances of J. W. Fawkes' "Steam Plow," we deem it our duty to record it as our opinion that this ingenious machine is well adapted as a stationary engine for general farm purposes, and that with improvements it can be made useful for plowing in our prairies; but that it is not such a machine as will entitle it to the premium offered by this Society.

Resolved, That in consideration of the expenses incurred in exhibiting this machine at Centralia and at Decatur, the Corresponding Secretary is authorized and required to draw an order on the Treasurer, in favor of J. W. Fawkes, for the sum of five hundred dollars.

Resolved, That H. C. Johns, Ex-President of this Board, be appointed a Committee to further superintend the trial of steam or other plows, and that he have full power to call to his aid any scientific or practical skill he may require, and in behalf of this Executive Board to award any commendation said plows may merit.

Adjourned.

REPORT OF THE COMMITTEE ON PLOWS.

We, the undersigned Committee, appointed by the Executive Committee of the Illinois State Agricultural Society to examine the plows upon trial at Decatur, on the 10th and 11th November, 1858, report, that—

We have examined the Gang Plow and Seed Sower invented by Joel Lee, of Galesburg, and that in our opinion it is an improvement on most other similar plows, and we believe it is worthy the attention of farmers generally.

We have also examined the Gang Plow, manufactured by H. C. Dawson, of Jacksonville, and pronounce it a great improvement on the old single plow, in common use.

We also examined the Single Plow, with wheels, manufactured by H. Prather, of Decatur, which we think will be valuable for deep plowing and for foul ground.

S. M. PARSONS,
EZRA MARQUESSE,
F. MAY,
T. B. HOPPIN,
D. S. STAFFORD.

December 11, 1858.

MEETING OF THE EXECUTIVE COMMITTEE.

SPRINGFIELD, *January* 4, 1859.

Present—C. W. Webster, President; Messrs. Ellsworth, McConnell, Kile and Osborn, Vice Presidents; S. Francis, Corresponding Secretary; and Phill Warren, Recording Secretary.

The Report on Farms was taken up, read and approved, as follows:

To the Executive Committee of the Illinois State Agricultural Society:

GENTLEMEN: Your Committee, to whom was referred the examination of Farms, Nurseries, and Groves of Cultivated Timber, beg leave to report as follows:

Of the best improved and most highly cultivated Farm, of not less than five hundred acres, there was but one entry: that of Silas H. Elliott, of Edgar county, which we think is certainly worthy of the Society's gold medal. The farm is a very fine one, conveniently and well laid out and in good condition.

Of the Farms of not less than one hundred and sixty acres, there were two entries. We have awarded the first premium to Sylvester Rider, Fairfield, Wayne county. Mr. Rider's farm of two hundred acres is divided into small fields of five, ten and twenty acres, and kept in the highest state of cultivation. His management of sheep, consisting of a flock of six hundred, is most admirable and worthy of imitation by our farmers generally. It consists of yarding them on the meadows, from the time the grass is out till winter, inclosed with hurdles two nights in a place, thereby keeping the sheep healthy, keeping down any weeds that may come up after mowing and enriching the land.

The second premium was awarded to A. G. Carle, of Champaign county.

Of Farms of not less than forty acres, there were two entries. The first premium we have awarded to A. & O. Bernard, Bloomington, McLean county, two brothers, who live one on each end of a forty acre lot. By pursuing a system of deep plowing, high manuring and clean culture for a number of years, they have distanced all competition.

Second premium to J. T. Atkinson, Union Grove, Whiteside county.

Of Dairy Farms there were no entries.

There were three entries of Grazing Farms. We have awarded the first premium to J. M. Blackburn, of Paris, Edgar county, for his Pioneer Farm, he having resided on it since 1821. It consists of something over fifteen hundred acres, divided into fields, and so arranged as to have water on every lot. A large portion of the farm is timber land, with the under brush cut out and seeded down with blue grass. We have no hesitation in pronouncing it one of the best grazing farms in the State.

Second premium to Fielding L. Scott, of Champaign county.

Of Nurseries there were three entries. We have awarded the first premium to Lewis Ellsworth & Co., of Naperville, Du Page county. We found their nursery in a good state of cultivation; and their cultivation of trees, evergreens, ornamental shrubs and plants, remarkably fine.

Second premium to A. R. Whitney, Franklin Grove, Lee county. We most cordially recommend Mr. Whitney's plan of laying out his nurseries—also the mode of keeping a record of all his sales.

Of Groves of Timber there was but one entry: L. H. Thomas, six miles east of Virden, to whom we have awarded the first premium for a very thrifty grove of young trees. Mr. Thomas planted the seeds in 1852, '53 and '54. Many of the oaks, walnut and maple are now twenty-five feet high, very thrifty and growing.

All of which is respectfully submitted.

HENRY I. CHASE.
JOSEPH MORTON.

October, 1858.

Field crops, entered for premium, were taken up for consideration.

Hugh Huls, of Kane county, was awarded the premium for the best 30 acres of spring wheat. Premium, Murray, Glover & Van Doren's Harvester and Stacker.

James Ervin, of Randolph county, best 20 acres of fall wheat. Premium, J. H. Manny's Reaper and Mower.

Hugh Huls, of Kane county, best 40 acres of drilled wheat. Premium, B. Kuhns & Co.'s Grain Drill.

Hugh Easdale, Randolph county, best 10 acres of drilled wheat. Premium, L. Moore's Grain Drill.

Hugh Easdale, Randolph county, best 5 acres fall wheat. Premium, $25.

Hugh Easdale, Randolph county, best 5 acres Indian corn. Premium, $25.

Harrison Hancock, Tazewell county, for crop of rye. Premium, silver medal.

Harrison Hancock, Tazewell county, best crop white beans. Premium, $20.

Levi Mason, Bureau county, second best. Premium, silver medal.

Harrison Hancock, best crop of potatoes. Premium, $20.

Michael Lowe, Madison, best crop sweet potatoes. Premium $20.

Hugh Huls, Kane county, best acre of clover seed, $10.

Robert Muir, Randolph county, best acre of castor beans. Premium, $10.

The Executive Committee went into the examination of the specimens of sugar and syrup of the Chinese Sugar Cane and Imphees, entered for competition and premium.

Mrs. H. M. Tracy Cutler, of Grundy county, was awarded a silver medal for sugar made from the juice of the Imphee or African Sugar Cane.

O. B. Ostrander, of Livingston county, was awarded a silver medal for the best specimen of sugar from the Chinese Sugar Cane.

H. E. Walton, of Macoupin county, was awarded the gold medal of the Society for the best specimen of syrup made from the juice of the Chinese Sugar Cane.

Benjamin Van Houten, of Edgar county, was awarded the premium of $15, for the second best specimen.

Orin Sholes, of Whiteside, was awarded $10 for the third best specimen.

S. A. Appleton, of Cook county, was awarded a silver medal for a fine specimen of syrup from the Chinese Cane.

On motion,

Resolved, That the corresponding secretary be instructed to publish in the Transactions, cuts, furnished without cost to this Society, of animals and implements for which premiums have been awarded within the last two years.

Resolved, That Messrs. Kile and Osborn be a committee to examine the treasurer's accounts.

Adjourned till 2 o'clock P.M.

Two o'clock P.M.

Board met, pursuant to adjournment.

Essays were taken up for examination.

A. B. McConnell, of Sangamon county, was awarded the first premium for his essay upon "Sheep and their adaptation to the Prairies," $10.

C. R. Overman, of McLean county, was awarded the first premium for his essay "On the cultivation of Orchards," $10.

Alexander McGow, of Lee county, was awarded the first premium for his essay "On Agriculture as connected with Colleges and Schools," $10.

Miss L. A. Platte, of Kankakee, was awarded a silver medal for her essay "On Agriculture as connected with Schools."

S. Francis, of Sangamon, was awarded the first premium for a paper on "Practical Gardening," $10.

C. D. Bement, of Poughkeepsie, New York, was awarded the first premium for his essay "On the raising and management of Domestic Fowls," $10.

J. Russell, of Bluffdale, Greene county, was awarded the first premium for his essay "On Practical Farming in Illinois, as connected with the cultivation of Upland Rice," $10.

Samuel Jacob Wallace, of Hancock county, was awarded the first premium for his essay "On the Fruit Garden," $10.

Adjourned till nine o'clock to-morrow morning.

January 5—9 *A.M.*

The Board met, pursuant to adjournment.

Present — C. W. Webster, President; Messrs. Osborn, McClun, Singleton, Kile and McConnell, Vice-Presidents; Johns and Brown, Ex-Presidents; S. Francis, Corresponding Secretary; Phill Warren, Recording Secretary; and John Williams, Treasurer.

On motion,

Resolved, That the petition to the Legislature for a portion of the seven per cent. Central Railroad fund, be referred to Col. Buckmaster, as a special committee.

Resolved, That the Corresponding Secretary be directed to transmit to persons whose articles were recommended in the Miscellaneous Departments at the late Fair, certificates of the character of the awards proposed by the different awarding committees for the same.

Adjourned till three o'clock P.M.

Three o'clock P.M.

Board met, pursuant to adjournment.

Present—C. W. Webster, President; Messrs. Buckmaster, Ellsworth, Kile, Osborn, McClun and McConnell, Vice-Presidents; J. N. Brown, Ex-President; S. Francis, Corresponding Secretary; and Phill Warren, Recording Secretary.

On motion,

Resolved, That S. Francis be allowed eight hundred dollars for performing the duties of Corresponding Secretary for 1858.

Messrs. Kile and Osborn, the committee appointed to examine the accounts of the Treasurer, reported that they had examined the same and found them correct.

On motion, the report was accepted.

On motion of Mr. Kile,

Resolved, That in consideration of the services rendered by the President, he be presented by this Board with a silver pitcher, of the value of fifty dollars, with a suitable inscription.

On motion, adjourned, to meet in the Representatives' Hall at seven o'clock, to make our final report to the State Agricultural Society.

PREMIUM FIELD CROPS, 1858.

WHEAT.

Mr. Hugh Huls, of St. Charles, Kane county, states that the land on which he raised his premium crops was low and level, somewhat on the moist order—say rather wet—inclining to the west. "I plowed the ground in the fall; first in the spring I harrowed, then drilled in the grain, intending to roll the same, but did not, on account of wet weather. We have had very bad weather in Northern Illinois the past summer.

HUGH HULS."

Hugh Easdale, of Randolph county, states: "The land on which my wheat was grown is prairie—soil a light loam. The preceding crop was partly wheat and partly oats; the land was twice plowed, and the wheat was drilled in the second week of September. The crop was harvested in the third week of June.

HUGH EASDALE."

James Ervin, of Randolph county, states in regard to his premium crop of wheat: "The variety was white winter wheat; the crop was raised on new prairie; broke up and plowed again before sowing; then harrowed and the wheat drilled in about the third week of September. The quantity of seed was about three pecks to the acre.

JAMES ERVIN."

RYE.

Harrison Hancock states in regard to the crop of rye raised by him: "My rye was plowed in among corn about the 15th of September. I plowed it in with a shovel plow. I run the plow three times in a row. I sowed one bushel and a peck of seed to the acre. I cut the corn-stalks in the spring, so as to have the ground clear for harvesting. There was a large amount of straw on the ground. A great part of the straw did not fill, on account of the wet.

HARRISON HANCOCK."

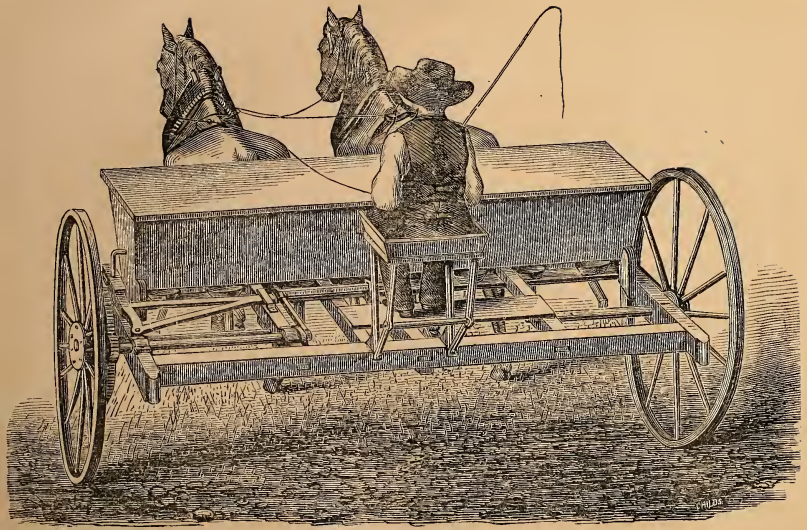
CORN.

Hugh Easdale, of Randolph county, says of his crop of premium corn: "My land is a light loam; the corn was planted about the middle of April, 1858, and the yield was 73 25-56 bushels to the acre.

HUGH EASDALE."

BEANS.

Harrison Hancock, of Tazewell county, received the first premium for beans. He says: "The ground for my beans was plowed in May. The weather still continued to be wet and rainy until about the last of June. I then plowed again, harrowed the ground down smooth, and then laid it off in rows one way, about three feet apart. I dropped the beans in a drill form, say eighteen inches apart the other way. I planted one half bushel to the acre. The kind I planted is what we call the 'White Pea Bean.'



LINDLEY'S SEED SOWER.

For which was awarded the Society's medal at the Centralia fair, 1859. George Lindley, Chicago, manufacturer.

In regard to plowing beans, they should not be plowed or hoed except in the dry part of the day. I plow and hoe from one to three times. I did not get a full crop.

H. HANCOCK."

Mr. Levi Mason, of Bureau county, was awarded a medal for his crop of beans. He says: "I this year raised, on a half acre of ground, eight hundred and sixteen (816) pounds of beans. The land on which these beans grew was broken two years ago last spring. It is a warm, light soil in ordinary seasons. It is prairie loam, with a moderate mixture of sand, with a southern exposure. The quantity of seed was about twenty-seven pounds. The kind was the small white bean. The beans were planted in the first week of May. Marks for rows were made with a chain, about two feet apart. I used Wakefield's hand corn planter, and gauged it to drop about six in a hill, and made the hills about ten inches apart in the row. The ground had been plowed in the latter part of April. The beans were hoed twice after they came up, by which means the ground was kept clean and mellow.

LEVI MASON."

POTATOES.

Harrison Hancock, of Tazewell county, gives the following account of the cultivation of his premium crop of potatoes: "My ground was old timothy sod. I sub-soiled in March, as soon as the frost was out of the ground. I then let it lay until June 22d, on account of the wet weather. I then cross-plowed, and got ready for planting. I run off my rows three feet apart; then dropped in a drill form, say two feet apart the other way. I plowed only once—hoed once; that was all the tending they got. It was too wet for potatoes this year. My ground was rolling. I planted fourteen bushels of potatoes to the acre. The kind here are called the 'Rhode Island Blues.'

H. HANCOCK."

SWEET POTATOES.

Michael A. Lowe, of Madison county, took the first premium for sweet potatoes. The following was his mode of cultivation: "The above sweet potatoes were set out in ridges, 18 inches apart, (the ridges were about three feet from each other,) next scraped, then plowed down and throwed back, and hoed no more till dug.

M. A. LOWE."

CLOVER SEED.

Hugh Huls, of Kane county, obtained his clover seed from "rather low, flat, dry prairie, sloping slightly to the west."

CASTOR BEANS.

Robert Muir, of Randolph county, received the first award for a crop of castor beans. "These were grown upon what may be called black hazel land. First crop, turnips and potatoes; second crop, castor beans and the above; the third crop castor beans. The beans were planted in hills four feet apart, and thinned out to one in the hill. They were plowed five times and once through with the cultivator. Harvested in the usual way, and the product was twenty bushels and five pounds. The land has never received manure.

ROBERT MUIR."

SUGAR FROM IMPHEE.

Mrs. H. M. Tracy Cutler, of Grundy county, was awarded a silver medal for a specimen of well granulated sugar from the juice of the Imphee or African Sugar Cane. Mrs. Cutler, in describing the mode of cultivation and the making of the sugar, says: "The Imphee seed was planted about the middle of June—two varieties, the Nee-a-za-na, the earliest, and the E-a-na-moo-dee, the largest variety. By the middle of September the Nee-a-za-na was pretty fairly ripened, and in less than a month after the E-a-na-moo-dee had matured sufficiently to crystalize well. From a small patch of this cane—about twenty rods—we manufactured five gallons and a half of syrup of the Nee-a-za-na, and from the other variety seven gallons and a half. From the first I made sugar in small quantities without any trouble. From the latter I took enough for about twenty pounds of wet sugar and boiled over the stove in a common tin boiler, adding nothing to clarify but a small quantity of lime water. I think more might have been added advantageously, but the lime was very poor and I found it of very little use in correcting the slight acidity of the syrup. The sample of sugar that I send is not as perfectly drained as it should be, but the weather has not been as favorable as warmer and summer weather would have been; besides it has been draining but a short time. You will see that the grain is clear and distinct and the color by no means disagreeable, considering that no decolorizing agent whatever had been used. I am satisfied, from imperfect experi-

ments, that the question of sugar for the prairies, is no longer a doubtful one. Even from the newly broken sod and imperfect utensils, to which add a season most unfavorable, the farmer may at least count upon a hundred gallons of syrup or 500 lbs. of good Muscovado sugar to the acre.

H. M. TRACY CUTLER."

SUGAR FROM THE SORGHO.

O. B. Ostrander, M. D., of Livingston county, was awarded a silver medal for the best sugar made from the Sorgho or Chinese Sugar Cane. The following is Dr. Ostrander's process: "Sample No. 1 (sugar) was made as follows: to the cold juice was added a strong decoction of nutgalls, one gill to ten gallons of juice; then brought to a boil and removed from the fire and the scum removed; then added lime water until *reddened* litmus was restored; then added two gills of bullock's blood to fifty gallons juice; again brought to a boil and the scum removed; then cooled to 160° Fahrenheit, and then filtered through six feet charcoal; then boiled rapidly to 20° Beaume, transferred to a finishing kettle and boiled to 236° Fahrenheit. The result is the sugar and syrup. Amount of sugar made like sample, 236 pounds; amount of syrup like sample, 46 gallons.

O. B. OSTRANDER, M. D."

SYRUP FROM THE SORGHO.

Hugh E. Walten, of Bunker Hill, Macoupin county, was awarded the first premium—the Society's gold medal—for the best syrup of Sorgho, or Chinese Sugar Cane. He thus states his mode of manufacturing this syrup: "The process of manufacturing this syrup, as per sample sent by me, is: to thirty gallons of juice, strained into the boiler, add one tea cup full of slacked lime, by thinning with water to the thickness of cream, and then boil as soon as possible, and commence skimming on the first appearance of boiling or the syrup will not be so clear. The boiling was continued as fast as possible, with frequent skimming, until the mercury in Fahrenheit's thermometer rose to 224 degrees. The fire was then withdrawn and the syrup taken up in stone jars to cool. The amount of syrup made as per sample was thirteen gallons, and the amount made from same lot of cane, by the same process except boiling to 220°, was 180 gallons.

H. E. WALTEN."

This cane was the Sorghum. The cane was very ripe. It was ground in a wooden mill. The juice boiled in kettles set on an arch. He strained the juice from the press. Filled up the kettles, when the scum rose skimmed it off. Then to about fifteen gallons of juice threw in a teaspoon full of soda, skimmed off again, and strained into another kettle. When it commenced to boil again, put in smaller portions of soda, and skimmed off; repeating the process until the scum became white. A quick fire is necessary. To boil with coals is more apt to burn than with a blaze.

Mr. V. H. kept a tub of clean water by his kettles and some clean cloths; and when the "film" would collect round the top of the kettles, he wiped it off with the cloths and then rinsed them—repeating the process when necessary.

The quicker the juice is boiled down, the fairer the syrup will be. By keeping a steady fire, the juice will be boiled down without burning.

The same process will make sugar. I boiled some of my syrup very thick, put it away in a warm room, and it granulated very finely.

With good cane, fair weather and cleanliness, any body can make a good article of syrup by my simple process.

BENJAMIN VAN HOUTEN.

Paris, Edgar county, Ill.

Orin Sholes, of Union Grove, Whiteside county, was awarded the premium for the third best specimen of Chinese Sugar Cane syrup.

Mr. Sholes thus describes his mode of manufacture:

"I have made about 125 gallons of syrup this season, and from less than half an acre I made fifty gallons—of which I send for competition and premium a sample. In expressing the juice I used two wooden rollers, cased with sheet iron, of eleven inches in diameter, and attached a horse power. I do not think I obtained more than two thirds of the juice from the cane. I used sheet iron bottoms with wooden sides for my boiling pans, placed upon arches; and for clarifying and neutralizing the acid I used lime and soda. The manufacturing of syrup from the Chinese Sugar Cane is now no longer an experiment; it is a reality.

ORIN SHOLES."

The sugar from the Imphee, presented by Mrs. Cutler, showed large and perfect crystals. It had the appearance of new Louisiana sugar, not well drained.

The sugar presented by O. B. Ostrander, M. D., showed perfect but small crystals; was quite dry; very sweet; a good article, resembling Muscovado sugar.

There were two other specimens of sugar exhibited; one by Josiah Sawyer, Esq., of Tazewell county, and the other by E. Paine, of Sangamon, which were creditable to these gentlemen.

The syrups which did not receive premiums, were a great improvement upon those exhibited last year. A syrup from the Imphee, sent by Mrs. Cutler, of Grundy county, was very bright, limpid and fine. All the specimens did credit to the exhibitors, and show a remarkable progress, within the last year, in this branch of home industry.

FARMERS' MEETING AT CENTRALIA FAIR.

[FROM NOTES TAKEN BY C. D. BRAGDON, ESQ.]

WEDNESDAY EVENING, *Sept.* 15, 1858.

The farmers met for the informal discussion of subjects of specific interest connected with their vocation, at the Cook county tent, upon the Fair Grounds, Wednesday evening, September 15th, 1858. Dr. JOHN A. KENNICOTT was elected chairman, and the first subject called up was—

RUST ON GRAIN.

Mr. ROOTS, of Perry county, was called for. Said he grew a crop of oats, had them cut and put in the barn. Came home one night, put out his team, and went to find grain for them; went where he supposed the oats had been stored, and could find nothing but straw. Finally, after digging some time, got a bundle. In the morning told his boy that the straw must be moved. "Yes," said the boy, "if you want oats, this year's crop must be moved until you come to the last year's crop, when you will find oats." His crop was a failure.

Dr. KENNICOTT—Who has grown a crop of good oats this season?

Mr. BARNES, of Du Page county—I should have had a good crop but for a storm, which beat them down; harvested fifteen bushels per acre; weigh thirty pounds per bushel, machine measure; were sown early—about the first days of April.

Mr. ROOTS, of Perry county—I have traveled somewhat extensively in Egypt, Tennessee and Kentucky, and with my eyes open; have taken pains to ask with regard to the oat crop, and find there will not be enough grown for seed next year.

Dr. KENNICOTT—What of the rust—what causes it?

Mr. MCCORD, of Marion county—I have paid a good deal of attention to this subject, having had my attention called to it by a

naturalist when I was a boy; have examined it on both wheat and oats in its different stages with a glass. On the first examination it seems to be covered with living animalculæ, but a subsequent examination with a seventy-five multiplier glass, discloses a putrid excrescence covered with minute insects. When it is moist, these insects seem alive; when it is dry, you cannot distinguish the insects. If you wet the straw, no insects are discernable, but after a dew or rain, they are visible, but only with this powerful glass.

Gen. Wilson, of Iowa—In Iowa oats are badly rusted; never saw men more paralyzed than were the Iowa farmers when they learned that the rust had appeared; only in the central counties are wheat and oats even an average crop. The rust appeared first about the last of June during the hot weather after heavy rains.

Mr. McCord, of Marion county—[In answer to a question by F. R. Elliott.] When these insects first appeared upon the wheat, they seemed to be alive, and after a few days they appeared to be dead, and cover the excrescence before named.

Gen. Wilson, of Iowa—Is the usual pains taken with other seed used in the preparation and selection of seed oats?

Dr. Kennicott—Yes, with mine this year. They were good oats.

Mr. Murtfeldt, of Ogle county—I sowed oats to compete for the premiums offered by the State Society; got seed from a man who got his seed in Canada, and had grown the oats here two years. They were white oats, weighing forty-two pounds to the bushel. The ground was well prepared, the oats well distributed and covered, and prior to the advent of wet and warm weather would not have thanked a man to warrant me eighty bushels per acre. They rusted, crinkled down, and I did not cut a straw. Oats sown with wheat, early, were bright and well filled; wheat did not fill. One of my neighbors grew a good crop of oats; prepared the ground in the fall, sowed early in spring.

Mr. Jonathan Perriam, of Cook county—Gave as his experience that land plowed in the fall, and seeded early in the spring with oats, when the frost is still in the ground, will do well; that sown late is uncertain. Said we do not sow and plant enough of the different kinds of grain and vegetables; our's should be a mixed husbandry, and my experience is, it is most profitable. He planted chufas or earth almonds—planted in rows two feet apart, and nine to twelve inches apart in the row. Just before leaving for the Fair, dug a hill and got a pint of full-grown chufas; were planted on sandy soil. Everything eats them well, particularly children. Potatoes planted early on his sandy soil were ripe the last of July. Rutabagas are profitable; has a crop that will not cost him five cents per bushel.

Mr. LINDLEY, of Chicago—Has experimented and observed relative to this rust fifteen years; thinks it is caused by too much acidity in the soil. He commenced "book farming" fifteen years ago. Prepared his land for potatoes by sowing on ashes, lime and salt, before plowing—a light top dressing; planted the potatoes and covered them with two furrows; old farmers sneered at him, but their potatoes rusted and his did not. Experimented otherwise, and believes that the application of alkalies will prevent rust. After dry and hot summers and cold winters, there is no rust. Believes fall plowing best for oats; spring plowing leaves the ground too mellow. Pack the soil with a roller; it is better for all grains.

Mr. MCCORD—A gentleman in Washington county said to me, "I expect I am the only man in the county who knows how to raise oats. Rust is occasioned by too much acid in the soil. I neutralize it—let my land lie still a year, cut the weeds and burn them. I plow in the fall and sow upon the snow in March; raised forty-five bushels per acre this year."

Gen. WILSON—What of the Poland oats?

Dr. KENNICOTT—Knew good crops grown from them.

Mr. LINDLEY—Had had experience, but they were no better than other and common kinds.

Mr. BRAGDON, of Chicago—Had grown them with good success: large crops, but they were always very smutty. This was his main objection to them.

Mr. F. R. ELLIOTT, of St. Louis—The rust can be prevented by soaking the seed in lime water previous to sowing. His experience had been favorable to this variety.

Mr. WEMPLE, of Winnebago county—Got the white Holland oat; sowed beside the common white oat; the former yielded one-third more than the latter, and weighed forty pounds per bushel measure. Last year Holland oats were very heavy; sowed of the seed last season; it did not come up well; what did come up will not yield ten bushels per acre. Got seed of the Poland oats from New York; yield good.

Mr. GREGORY, of Vermont—We have a fine crop of oats through New England. You have been furnishing us with our breadstuffs, now we will furnish you with seed in return. The last winter there was ordinary—summer moderate, with occasional showers; no excess of heat or cold.

Mr. ELLIOTT—Had imported a winter oat, and had grown good crops from it.

Gen. WILSON, of Iowa, was called up to respond to the question, "What of Hungarian grass?"

He said, "if the oat crop is gone in Iowa the Hungarian grass will save the cattle." He proceeded to give briefly its history and the success that had attended it in Iowa. There was nothing grown that animals preferred as a food. Speaking of its growth, he said, "farmers reported they *had to take their fences down* to cut it." Is it exhausting? "Not more so than any other crop." He is not satisfied that it can or cannot be easily eradicated from the soil. It is the crop to be sown in dry seasons. If sown early it will make a good fall pasture.

Mr. NICHOLS, of Clinton county—One of his neighbors sowed it and got six tons to the acre. [We so find this in our note book.] Other neighbors got small crops. In answer to a question, said he *did believe* this neighbor got one more shower than the others whose success was not as good.

Mr. CYRUS P. OVERMAN, of McLean county—Regards this as an important subject; has had a slight experience in its cultivation; regards it as a species of small millet, with finer straw than the ordinary millet. His experience is, that fed with corn to his team, they leave the corn and eat the grass.

Mr. LADD, of Champaign county—Sowed one bushel of seed on three acres; it is a good crop, but would sow more seed on the acre; one-third of a bushel is not enough; left it ready for cutting; thinks it one of the best qualities of grasses for feed.

Gen. WILSON—Relative to its milk producing qualities it is impossible to get data; had made extraordinary efforts to secure it; had insisted upon it when distributing the seed, but had not been successful. Farmers ought to make experiments; it is their duty to do it.

A VOICE—How about its beef producing qualities?

Mr. ELLIOTT—Doubts if it will produce beef or butter in comparison with other grasses.

Gen. WILSON—Stage drivers say it is heavier feed by twenty-five per cent. than oats; the standard weight per bushel is fixed at fifty pounds.

Mr. WHITMAN, of DeKalb county—Has fed it; there is little difference between it and timothy as to its fattening qualities; if any difference it is in favor of the Hungarian grass.

CHUFAS OR EARTH ALMOND.

Dr. KENNICOTT—Pulled up a bunch planted in May, and found not a single tuber.

Mr. BRONSON MURRAY, of LaSalle county—Succeeded in growing a good crop on bottom land.

Mr. MURTFELDT—Planted in sandy soil; had not dug them, but finds his children are fond of visiting the patch.

Mr. OVERMAN—Says should be planted in ridges.

Dr. KENNICOTT—They will kill out.

DIOSCOREA BATATAS.

This subject was called up and instantly brought out a shower of sallies. Arthur Bryant, of Bureau county, was called for. He knew nothing of them. Dr. Kennicott thought Mr. Elliott could give some experience. Mr. Elliott was called for. He said it was a subject he did not like to talk about. He bought of the prince of humbugs thirty dollars worth of the tubers—this "esculent."

Dr. KENNICOTT—I did not think you green enough to invest thirty dollars in such a humbug."

Mr. ELLIOT—"Not *mean* enough?"

Dr. KENNICOTT—No, no, I did not say *mean*, I said *green*—not *green* enough."

Mr. ELLIOTT—"Worse and worse; I had rather be called *mean* than *green*. But I did invest—planted two years ago, and about three weeks ago dug down eighteen inches and found two small ones—two *very* small ones, and this is all I have 'realized' from my thirty dollars in the shape of Dioscoreas."

NEW ROCHELLE OR LAWTON BLACKBERRY.

Mr. BRONSON MURRAY—Has seen them three years old; not fruited yet.

Mr. ARTHUR BRYANT—Has had some experience. The first year they winter killed; second year got a little fruit; third year were killed at the collar; the current year they have fruited some. Thinks they are better than the "highbush," so far as he can judge.

Mr. ELLIOTT—Regards them with favor; he has them in fruit; they bear longer than the "highbush"; had seen stems grown this year thirteen feet long; would cut them back one half; are not tender; no better flavor than the "highbush."

Gen. WILSON—Would have had a good crop but for the birds; is favorably impressed with them.

Mr. Bragdon—Saw them fruited at Rochester, in August, 1857; then heavily loaded; had ordinary nursery culture, but flavor poor.

Mr. Overman—With me those partially shaded were better flavored than those grown in the sun.

Mr. J. T. Little, of Lee county—It winter killed with me while the Antwerp raspberry did not.

THE COMMON BLACKBERRY.

In answer to the question, "Has any one had any experience in the cultivation of our common wild blackberry?" Several responses were made to the effect that it improved with cultivation, and in quality excelled some of the more noted sorts. The opinion was expressed by Dr. Kennicott and others that there might be sorts obtained in the woods of South Illinois that if cultivated and improved would far excel the New Rochelle. This opinion was sustained by several gentlemen.

RASPBERRIES.

Dr. Kennicott—Has any one had a good and constant crop of raspberries in Illinois?

Mr. Overman—Has had no difficulty in cultivating the black and a few other varieties, and improved them from the seedling. Others had got good crops by cutting back properly.

Mr. F. K. Phœnix, of McLean county—Brinckle's orange bears itself to death—an enormous bearer; hardier than old Antwerp, but not perfectly hardy; should be protected.

Dr. Kennicott's experience relative to this variety was like Phœnix's: it bore itself to death.

Mr. Woodsides, of Perry county—Said he had a raspberry bearing monthly—called the monthly raspberry, purple, ten years in his garden; cut it back once each month, and it bears full crop four to five months of the year; habit same as the ordinary raspberry; got it of Dr. Brashaw, of Perry county; thinks he got it in Cincinnati, Ohio.

Here a motion to adjourn ended the talk. Pending the motion to adjourn, Mr. Overman proposed "underdraining" as the leading subject for discussion the next evening, eloquently enlarging upon the importance of attention to this subject by every farmer and gardener.

The meeting was called to order by Dr. Kennicott, the Chairman, at seven o'clock.

The subject to be discussed was drainage, but as Mr. Overman, who proposed the subject, was not present to open the discussion, it was suggested that something more might be said of rust, as the discussion of the previous evening had been much talked of during the day.

Mr. Murtfeldt, of Ogle—Said, "a farmer from Belleville says rust is nothing but mildew."

Mr. Lindley, of Chicago—Still believes the application of alkalies a remedy; a farmer in Minnesota never failed of preventing rust by the application of lime.

A Voice—Do you apply when sown?

Answer—At any time when it can be mixed with the soil.

Mr. Carter, of Belleville—It is immaterial whether it is dew or fog, we have the rust. If we have a dry May or June, we do not have it.

Mr. Colman, of St. Louis—Has grain on soils containing lime suffered or not this year from the rust? That is the question. They have suffered. The grain sown on new soils has not escaped. Do not believe it was from want of alkalies in the soil, but believes it was nothing but a mildew, caused by rain, fog, dew, &c.

Mr. Nichols, of Clinton county—Have sowed wheat twenty-one years, and never failed with but one crop. Has sown lime; once sowed twenty-one bushels on an acre, and raised ten bushels more to the acre, and one-third heavier per bushel. The lime caused it to ripen ten days earlier. Leached ashes mixed with the soil produced good crops. Portions on the limed land were not rusted as badly as elsewhere. Deep sub-soil or trench plowing, where the sub-soil is thrown upon the surface, prevents rust.

Mr. Bragdon, of Chicago—Is it not a fact established by the experience given here, that late sown oats rust and the early seeding does not? This is familiar to Eastern farmers.

Mr. Colman asked about dragging a rope over the field to prevent the rust by shaking off.

Mr. Nichols said it was no preventive.

The Chairman said the preventive appeared plain in the deep plowing and early seeding.

Dr. KENNICOTT—Had under-drained land; grows double crops. In the north part of the State we can never raise fruit without under-draining. Trees winter well and crops surer on drained land.

Mr. ROOTS, of Perry—How can we get tile in Egypt?

Dr. KENNICOTT—Make them. They can be made for $10 per thousand pieces.

Mr. COLMAN—This is one of the most important subjects pertaining to the business of the farmer. But you cannot approach Illinois farmers on the subject. They say they cannot do as eastern people do. There is no country in the world that stands so much in need of drainage as Illinois. Farmers can do all the labor and prepare all the material necessary on their own land, and in the winter. [Mr. Colman proceeded at some length to enlarge upon the importance and benefits of draining, giving some of the laws which govern the action of water in the soil, &c. Our brother editor must allow us to suggest that long speeches should be novel as well as good, in order to be excusable in such a meeting. His speech was good, but not new enough to be in place.]

Mr. RUGG, of Ottawa—Agrees as to the value of draining, but much of our land is too light already; plowing deep throws up a heavy sub-soil, and must accompany drainage. Rolling is another method of modifying the lightness of the soil.

Mr. ROOTS—Says a farmer told him a heavy roller was worth as much to him as his plow. When he rolled his wheat he had a good crop; when he neglected to roll his crop was light.

Mr. BRITTON, of McLean county—We have had drains in our county several years. I have talked with several farmers this year. It has been wet, but on the drained lands, the sloughs, &c., the crops have been fine. Some of these drains are seven years old, made by a prairie drain plow or mole. They are made two and a half and three and a half feet deep. Time makes no impression upon them. They are made at twenty-five cents per rod.

Mr. ELLIOTT, of Edgar county—Mr. Colman is mistaken as to the spirit of the farmers of Illinois as to draining. In the eastern part of the State we are using these mole ditches with good success; find it pays to use them.

Mr. CHARLES KENNICOTT, of Marion county—We have evidence enough in Egypt that draining is a benefit. Corn planted on ridges is good; that planted on the flat surface is poor. He advocated deep plowing, under-draining, &c., and the cultivation of fruits and vegetables, and their consumption. Especially in Egypt ought there to be more attention paid to this diet. We would

have less of the fever and ague, scurvy and other diseases. Had made brush drains; dug narrow, and three and a half feet deep; took an Ames' spade, cut the corners off, and took out a spit at the bottom of the drain. In this lay the brush, over the brush straw, and clay top of that, and cover. In the northern part of the State, where this experiment was tried, the drains should be within thirty feet of each other, and quite as near in Egypt, depending of course upon the locality.

Mr. MEDILL, of Cook county—Stewart, of Indiana, has a new method: digs a drain, narrow, two and a half feet deep; is careful to preserve the sod; in the center takes out a spitful, and covers with inverted sods.

Dr. KENNICOTT—How silly, after having done most of the labor, not to put in a substantial drain!

Mr. BRAGDON—We know draining sloughs and wet places is profitable—we have no need to discuss this subject; but does it pay to put in under-drains in uplands?

Mr. CHASE, of La Salle—Said old ways were going out of date. The steam plow is new, but draining must be performed by steam rather than horses.

Mr. MARTIN, of Decatur—Merely stated that a drain made by the prairie drainer had lasted seven years, and successfully; could work the drainer on rolling as well as on level land.

Mr. JOHN DAVIS, of Decatur—Has seen this underdraining, and stated facts where the drain had failed, for which no cause has yet been assigned; considers draining valuable, and western farmers are ready to go into it as soon as they can be sure of the best way.

Mr. BRITTON warrants the work of one of Cole's mole ditchers.

Mr. PERRIAM stated that a wet pond had been drained by a friend of his by making stone drains at a cost of fifty cents a rod, and now all over the land all sorts of plants can be grown successfully.

Mr. SCOTT has found deep plowing and furrowing out for draining a great item in increasing crops; has raised twenty-five to thirty-five bushels and as high as forty-two bushels of wheat to the acre.

Col. CAPRON, of McHenry county—Has used hard burned brick; some of his best drains have been made with them; dug wide enough to allow a brick to lay in the bottom lengthwise flat down; in bottom put plank, on this set brick edgewise to form the sides, and covered with a single brick laid flat.

Mr. ELLIOTT, of St. Louis—Agreed with Col. Capron in using hard brick for drains; he had practiced it and been successful.

Mr. MURRAY said it had been stated to him that it was absolutely necessary to have the beds of the courses straight, and that three feet deep is quite shallow enough for any drain to preserve from frost.

Mr. DAVIS—Draining is a profession. He gave his experience with a professional.

Mr. COLMAN cited an instance where the farmer makes his own tile with a machine which every farmer may obtain.

Mr. C. KENNICOTT does not believe these machines will prove practicable, because it requires more skill to burn tile than to burn brick. Would not advise farmers to buy machines until they knew how to burn the tile.

Dr. KENNICOTT supported this advice by relating the experience of an old tile maker, who regarded it as a peculiar and distinct business to make good tile.

Much more was said pertinent to this subject, which we were unable to retain.

DEEP PLOWING.

Mr. VAN DOREN, of La Salle—We do not use less than three oxen or three horses for plowing. We get laughed at, but our crops yield us one-third more for putting in the deep plow. We never plow less than ten inches.

Mr. LINDLEY knew of a field seven to eight inches deep plowed, on which was this year a first rate corn crop.

Mr. ANDREWS, of McHenry—Plows deep; had not had a poor crop in sixteen years; crops are double those of his neighbors who plow shallow, with no more labor expended except in plowing deep.

Mr. VAN DOREN commends the Michigan sod and subsoil plow. After the first plowing it is little harder to use than the common plow.

Mr. PERRIAM—Gets one-third more crop when he uses the Michigan double plow.

Mr. VAN DOREN—Gets more corn on one acre of sod planted in deep plowing than on four acres as ordinarily plowed. He let an Irishman sow some land in wheat. He apportioned to him a part of a field of shallow plowing, alongside of which were some deep plowed lands. The Irishman wanted to sow on a part of the latter, but was refused. After the wheat had begun to head, Van Doren was riding by and noticed a difference in the height and habit of two portions of the field; one part was much higher than the other. He left his horse and examined the water furrows, and found that the part on which the grain was so stout was a portion

of the deep plowing he had refused to let the Irishman occupy. After harvest, when settling with Pat, he reminded him of the fact that he had trespassed—had gone over the line on the deep plowed land when he sowed his wheat.

Pat replied, "An' faith, if I had not had that acre, Mister Van Doren, I could not 'a paid my rint, at all, at all."

Mr. White, of Champaign county—Has a neighbor who has a field that has been cropped with grains seven or eight years. This year he plowed it thirteen inches deep, and on four acres will harvest four hundred bushels of corn; used Michigan double plow.

Mr. Bragdon—Wished to ask Mr. Van Doren if prairie sod turned over deep with the Michigan plow rotted as well as that turned over in the manner of ordinary prairie breaking. It has been objected that deep breaking prevents the sward rotting and renders it impossible to work the land subsequently because of sods. Is this a fact?

Mr. Van Doren—The sod does not rot well when turned under with the Michigan plow. This was corroborated by Bronson Murray, who believes the plow should not be used indiscriminately. If the plow is used on sod in the spring, and oats or spring wheat sown on it, they will not do as well as on ordinary plowing; but if it be broken deep in the fall, and subjected to the action of the frosts, and seeded in the spring, it produces well. Corn does not germinate so well in the subsoil turned up in the spring, but it is our experience that we get as good crops. The corn is better growth, and subsequent crops increase the reward of pains in plowing.

Adjourned.

REPORTS OF COUNTY SOCIETIES FOR 1857.

ADAMS COUNTY.

The Fourth Annual Fair of the Adams County Agricultural Society was held at Quincy, on Wednesday, Thursday and Friday, October 7th, 8th and 9th, 1857.

Wednesday was a splendid day for the opening of the Fair, and at any early hour in the morning people commenced flocking in from the country. There was more general interest taken in the Society and this Fair than any which has preceded it, and more articles were entered than was anticipated. The attendance on Thursday was large and estimated at from ten to twelve thousand people. Visitors were pouring in all day, and it was almost a matter of impossibility to work one's way through the mass of people that filled the buildings where the articles were placed on exhibition.

The crowd on Friday was nearly as great as on the day before, and thousands were drawn out to witness the great trotting match, which was substituted in the place of an address, although it is doubtful if it proved as beneficial to those on the ground as an address might have been.

In every respect this was the most successful Fair ever held in Adams county. More care and attention has been taken in getting it up and more interest manifested by the people than ever before.

The receipts of the Fair were $2,150, which, after paying the expenses of the Fair, left sufficient balance on hand to pay the debt of the Society.

The number of entries in the different departments was as follows:

Class A.	Farm crops	12 entries.	Class M.	Flowers and shrubs	24 entries.
" B.	Horses	78 "	" N.	Dairy and farm products	93 "
" C.	Jacks and mules	15 "	" O.	Agricultural implements	34 "
" D.	Cattle	28 "	" P.	Vehicles	14 "
" E.	Sheep	11 "	" Q.	County manufactures	50 "
" F.	Swine	2 "	" R.	Domestic manufactures	46 "
" G.	Dogs	10 "	" S.	Fine arts	56 "
" H.	Poultry	8 "	" T.	Ladies' fancy work	65 "
" J.	Products of orchard	52 "			
" K.	Vegetables	32 "	Total		660 "
" L.	Grain	30 "			

Number of entries in all 660. The stalls were filled with fine horses, jacks, mules and cattle, many of them noble animals. Among them was the splendid and celebrated stallion, "Silver Heels," who attracted special attention. As he flew round the track, spurning the ground beneath his feet, with head proudly erect, it seemed as though his arching neck was "clothed with thunder." He was the cynosure of all eyes, and well deserves the enconiums he has received on all sides. There were many other splendid animals, some no doubt more useful and valuable, in a utilitarian point of view, than "Silver Heels." The show of jacks and mules was not large, but embraced some animals of superior merit, and can hardly be beat in the state. A fair show of blooded cattle, and were equal, in point of excellence, to the display of horses.

The sheep and swine, though in small numbers, were good in point of quality. Some Cotswold sheep exhibited by Mr. E. Combs, covered with a thick coat of wool, 13 inches in length, attracted much attention.

A new department was this year added to the attractions of the Fair, by a show of dogs, and the entries included fine animals of all breeds—Newfoundland, Terriers, Bull, Greyhound, Setters, Pointers, &c., which would have warmed the heart of a fancier of this kind of stock. They were fine of their kind, and no "cur of low degree" found a place among them.

The exhibition of fruit was extensive and of superior character. Our county has long been celebrated for its many excellent orchards, and our farmers are properly directing more of their attention to this valuable department of farm production. It is doubted if any other county in the state could produce so extensive and valuable a display of choice apples. That it far exceeded any exhibition of the kind ever shown at our State Fairs is the testimony of many who have been present at all.

Grain and vegetables were exhibted in profusion. Choice samples of wheat, corn, potatoes, &c., sustained the claim that our state has no superior for capabilities of production in this department.

Flowers and shrubs were also exhibited, sufficient to show an increasing attention and taste in this direction.

The display of dairy and farm products was very fine, particularly of butter, cheese, bread, preserved fruits, &c.

The collection of agricultural implements was good. Splendid plows from the Quincy Agricultural Works. Reapers, drills, corn planters, &c., and some new and novel machines from abroad.

The show of vehicles was particularly fine. Carriages were a great addition to the interest of the Fair. Messrs. Hayes Woodruff & Co., of Quincy, exhibited work which every one pronounced superior to any other ever seen at such an exhibition. Our manufacturers also had some superior farm wagons. No show of this kind equal to it has ever been seen in this state.

In county manufactures the display made by our mechanics in cabinet, coopers', foundry, harness, &c., work, reflected great credit. The display of stoves, &c., was especially large and fine, from the celebrated works of Comstock & Co.

In domestic manfactures the show was good. Carpets, coverlets, blankets, flannel, stockings, and many other useful and comfortable things, covered the tables and walls, and fully sustained the well earned reputation of the industrious housewives of our county.

The exhibition of fine arts was one of the crowning glories of the Fair. The numbers and excellence cannot be excelled in any section of our state. Many beautiful works of art, the production of our own home artists, and many splendid and valuable paintings, kindly sent by their owners only for exhibition, covered the walls of this department, and the constant throng that crowded the building manifested the attractions of the display.

In the class of ladies' fancy and ornamental work, the taste and ingenuity of the ladies, occupied a large space, and constantly elicited the admiration of all and perhaps the envy of some. The display was good and very full.

H. D. WOODRUFF, *Sec'y.*

BOND COUNTY.

We have no returns of the Bond county Fair of 1857. A fair was held, and there were many entries. The ladies' department seemed to be best supplied with articles. There was a fine exhibition of fruit from the orchard of Wm. S. Wait, Esq. The means of the society have been expended in purchasing and fixing their fair grounds. It is said that no plate premiums have yet been awarded by the society. Judging from some knowledge of the leading farmers of Bond, we shall yet see a flourishing agricultural society in that county.

BOONE COUNTY.

The annual Fair of the Boone county Agricultural Society for 1857, was held in Belvidere, on the 7th, 8th and 9th of October. The society was organized in April, 1855. The late fair was, therefore, the third held by this society.

The county is one of the smallest in the State—so small that many feared the society would be a failure; but the expectations of the most sanguine have been more than realized. The receipts of the fair of 1855, were $450. For 1856, the receipts were $600, and for 1857, the receipts were $1,185 70:—thus exhibiting a steady increase of interest in the society's efforts. For this success the society is in a great measure indebted to the indefatigable efforts of its worthy president, Hon. A. C. Fuller, and the secretary, Geo. J. Wood, Esq. The society has purchased and inclosed eight acres of ground, in Belvidere, on which the fairs are to be held hereafter.

At the time the society was organized the stock of all kinds consisted almost entirely of the ordinary breeds. At the late fair many animals were exhibited which would be a credit to any county in this or any other State. Mr. Barnard exhibited fifteen head of Devon cattle, which were perfectly beautiful. Most of them were raised in Vermont. Mr. J. Q. A. Rollins exhibited a lot of very fine Durhams, which attracted universal attention. His fine bull, *Napoleon*, carried away the first premium at the Wisconsin State Fair. Many citizens of the county also exhibited fine specimens of Durham cattle.

The exhibition of horses was also very fine. Most of the stallions were of the Morgan and Black Hawk breeds. Of sheep there was a good show, embracing specimens of the South Down and French and Spanish Merino varieties. Suffice it to say, the fair was a successful one, and the farmers and mechanics of the county, with their wives, sons and daughters, had a glorious time.

L. W. LAWRENCE,
Com. of Ill. State Ag. Society.

CHRISTIAN COUNTY.

Officers for 1857:

President—Jacob Maxwell.
Vice Presidents—A. D. Northcut, V. S. Priest, J. H. Hill.
Treasurer—J. H. Clark.
Recording Secretary—Wm. A. Goodrich.
Corresponding Secretary—A. Sattley.

The Agricultural Society of Christian county was organized on the 21st of July, 1856. The first fair of the society was held on

21st, 22d and 23d of October, 1856. There were eighty-four entries of cattle, horses, hogs, sheep, etc., and forty-eight entries of miscellaneous articles. Premiums were awarded to the amount of about $200.

The second annual fair was held on the 21st, 22d and 23d days of October, 1857. There was one hundred and seventeen entries of cattle, horses, mules, hogs, sheep, etc., and ninety entries of miscellaneous articles. The premiums awarded amounted to $420. The attendance was large and much interest was manifested. The exhibition of equestrianship by the ladies was exceedingly interesting. The first premium was awarded to Mrs. V. T. Priest. The second to Miss Martha Baker.

The society have purchased fifteen acres of land for a fair ground, adjoining the town of Taylorville, which is well watered and shaded and will soon have it inclosed with a board fence.

The society, although it has met with oposition, is in a flourishing way. It is established on a basis that bids fair to be permanent. Its exhibitions, as they have progressed, indicate a permanent future.

W. A. GOODRICH, *Secretary.*

In the address of Major D. D. Shumway, before the Agricultural Society of Christian county, at the fair of 1857, he said—

The science of agriculture consists in the knowledge of the constituent parts of the soil and of plants, and the adaptation of one to the other. "Plants, like animals, are governed by laws that may be modified, but never change. They breathe, eat and digest their food, as animals do, with this difference in their kind of food, the animal feeding upon organic matter and the plant upon inorganic matter."

Would any intelligent farmer think of turning his stock into a field where there was nothing but dried corn-stalks, briars and stramonium and expect they would grow and fatten upon such? No! And why? Because he knows from observation that they cannot extract from such things enough nutriment to supply their wants. Would a scientific farmer sow his grain in a soil destitute of the constituents necessary to the growth and perfection of plants and expect an abundant yield? No! And why? Because he knows the ingredients necessary for the sustenance and growth of such plants are absent.

We all know that cold, wet and clayey soil is not so well adapted to the growth of corn, wheat, etc., as a warm, rich, black, loamy soil. We all know that successive crops of wheat, corn or other grains grown upon the same soil, will exhaust it, and hence, we resort in cultivation to a rotation of crops, by which the matter which has been exhausted by the growth of that crop, may be returned to the soil again.

We know that all vegetation requires warmth, light and air, to insure its growth and perfection. We also know that animals

will grow and fatten upon some kinds of vegetation better than upon others.

It is these laws which govern organic and inorganic matter, and the various relations created by nature, that intimately exist between them, that constitutes the science of agriculture.

How necessary, then, in order to plant the proper seeds upon the right soil, to produce the greatest crop, to feed to the right advantage, that we should learn and understand these laws and relations in all their bearings.

Have we a full knowledge and understanding of them? No! "The earth is a vast chemical laboratory, few of whose operations we comprehend."

Within the last few centuries much has been learned and written in regard to the science of agriculture, and yet we are but in the infancy of that knowledge—that the "Newton of agriculture has not yet appeared;" and that, when the time arrives, the teachers of the present and the past will be deemed as "tyros in the grand science!" And it is our duty, farmers, to spare no effort, by observation, by experiment, by study and reflection, to perfect ourselves in this scientific knowledge, the acquirement of which will add immensely to our pleasure and our interest.

The art of agriculture consists in the proper cultivation of the soil, at the right time and in the best manner, in the selection of seeds for sowing and planting, in having a variety of crops, in the selection and using farming implements, in the selection and breeding of stock, in the distribution of farm labor and the general mangement, by which no valuable time or money shall be uselessly expended.

Some farmers will only plow shallow—just skim the surface of the ground—will plow when the ground is too wet or too dry, and prepare it for days or weeks before they are ready to put in the seed, are indifferent as to the kind of seed, or to the time they sow or plant. This class are also careless as to the farming utensils they use; they will only work with a poor plow, chop with a dull ax, mow with an edgeless scythe—do what they perform with the hardest labor and the least profit. Just look at the custom of plowing in olden times. It is stated that when "Elisha the Prophet was taken from the plow and called to a higher trust he left twelve yoke of oxen in the furrow." What a fact! How poor and weakly must have been his team, how clumsey and unwieldy his plow, when it took twelve yoke of cattle to make a single furrow?

Well do I remember what a young farmer told me, years ago, in relation to his first trials in plowing. He had been trained in other pursuits, and resorted to farming to support a young family. He was poor, and had but few farming implements, and borrowed of a neighbor one of the old wooden mold-board plows, which were then most generally in use in the western country, and went to plowing a piece of sod ground broken the summer before. That day was one of trial to a new beginner; the plow would neither run

under the sod and turn it, without clogging, nor cut and clear its way, but went bobbing along, fretting and tiring himself and his team, and doing but little good.

That night he retired to rest, weary, dissatisfied, cross to himself and to his family. The next morning another neighbor kindly offered one of Jewett's improved plows, with steel mold-board—just then coming into use. He used it, and it worked finely; it clave the sod and the rich mellow earth beneath it, and both flew from its brightly polished surface, pulverizing and mixing in fine order; before 9 o'clock his team of horses were quieted, and took to the furrow as if they were proud of their work, and he was whistling to the tune of

"How sweet a farmer's life!"

That day's work done, the evening was a pleasant one to him and his family; smiles and kind words to his young wife and children; grateful for the present few enjoyments, and with bright hopes for the future.

What a volume of teaching in this simple illustration of a single item in the great array of facts which bear upon the art of agriculture!

There is another class of farmers who plow deep—who know that one deep, well-plowed furrow will produce more grain than half a dozen shallow ones—who exercise great care in the selection of their seed, selecting the hardiest and most productive kinds—who place their seed in the mellow soil, at the earliest moment after it has been turned by the plow, before it becomes hardened and its richness evaporated—who will work only with the best farming utensils, knowing full well that, although the first cost of such is somewhat greater, yet, in the end, time, labor and money are all saved to them—who know that small, unthrifty stock consumes as much food as a larger and more thrifty kind—and who practice, in the general management of their farming affairs, upon the old adage, that "what is worth doing at all is worth doing well," and upon the equally trite saying, that "a stitch in time saves nine."

A knowledge and practice of the foregoing rules constitutes, in part, the art of agriculture. * * * * *

Mr. President, this is our second annual meeting; and although we commenced our organization under discouraging circumstances, with but little means to start upon, and the prejudices of many to contend against, yet, I am happy to say, we have succeeded beyond our most sanguine expectations. The organization of this society has created an agricultural and mechanical interest among the people, that I sincerely hope will not be diminished by time nor space, but shall continue to grow and expand until every man and woman within the limits of its organization shall become active members of its body.

The lengthiness of my remarks admonishes me that I ought to

close, and yet I cannot forbear to offer a few more words to our agricultural and mechanical friends. While we are collecting together and storing our minds with the great practical facts of experience, in the different departments of our callings—while we are searching the vast laboratories of nature for those grand scientific truths upon which agricultural and mechanical labor is based—while we are organizing associations for our mutual benefit, and building public improvements, for carrying off our products, and facilitating our intercourse—we should not forget that the real elements of happiness are near at home, within ourselves, and in the circle of domestic life.

In the generous rivalry of competition in various departments of labor, and in the struggle for an independent affluence, we should not forget to cultivate our tastes and refine our manners—learn to love the beautiful in art and nature. While the mechanic is using the products of the forest, and by his art and his genius bringing a rich reward for his labor, and the agriculturist making his broad fields pay heavy tribute to his industry, they should not forget the erection of the homestead, and surrounding it with beautiful trees and flowers, whose daily growth and beauty will not only have a tendency to cultivate his tastes and refine his manners, but remind him of that great eternal source of divine purity, from which emanates all earthly goodness and beauty. In short, we should so conduct ourselves as workmen in the great arena of life, that every effort we make, every step we take, shall add dignity and influence to labor, hastening on its millennium day, when it shall occupy its proud and lofty position, the first among the vocations of life.

CLARK COUNTY.

Officers for 1857:

President—Timo. R. Young.
Vice-President—Jas. Lockhard.
Treasurer—J. K. Greenough.
Secretary—Edward L. Hite.

The Clark County Agricultural Society is in a prosperous condition. At our third Annual Fair, in October, we had a fine display of stock and articles on exhibition. We have no fair grounds belonging to the Society; but it is hoped that the county authorities, regarding the importance of the matter, will provide fair grounds, which will be put in order. If this is done, our County Society will increase three-fold in numbers and usefulness. The

farmers of Clark, with few exceptions, have right views of agricultural progress, and are up and doing—exerting themselves in the improvement of their farms, stock, fruit, grain, &c. A large number of farmers will plant the seed of the Chinese Sugar Cane next spring.

EDWARD L. HITE,

Secretary of Clark County Agricultural Society.

CLAY COUNTY.

The Clay County Agricultural Society was organized February 7th, 1857, by electing Major John Onstott President; Messrs. Thompson Bothwell, Lafayette White and Jackson Barker, Vice-Presidents; J. W. Wescott, Corresponding Secretary; B. B. Thomas, Recording Secretary; and Jos. Bates, Treasurer. The first annual fair was held at Xenia, October 15th and 16th.

The total amount of funds of all kinds received by the Society was		$375
Amount paid on premiums	$304	
Other expenses	45	
		$349
Cash on hand from last year		$26

The Society met on the 28th December and elected the following officers for the year following:

President—Major John Onstott.

Vice-Presidents—Thompson Bothwell, H. K. Farris, Jackson Barker.

Corresponding Secretary—B. B. Thomas.

Recording Secretary—Wm. Elston.

Treasurer—Isaac Hoskinson.

There was a large amount of stock offered for premiums, and, it being their first fair, the Society were surprised at their unexpected success, and expect, at their second fair, to surpass many, and not fall far behind any County Society in the State, considering our population.

B. B. THOMAS, *Cor. Sec.*

CLINTON COUNTY.

On the 21st April, 1856, there was a meeting held in Hickory Grove, to take into consideration the propriety of organizing an agricultural and mechanical association for Clinton county. O. B. Nicholls, J. J. Justice and D. C. Collins were appointed a com-

mittee to draft a constitution for the purpose, and submit the same to an adjourned meeting, to be held at the court house, in Carlyle, on the 20th of May, 1856. The meeting was held; it was a large one; and the draft of a constitution was submitted to the people present, and adopted by them. The meeting adjourned to meet again in the same place on the 16th June, to elect officers, who were to serve until the next annual meeting—which was fixed by the constitution for the third Saturday in December of each year. The meeting was held, and the following persons were elected officers: O. B. Nicholls, President; J. W. Huey, J. J. Justice and Reuben Rutherford, Vice-Presidents; David Pardee, Treasurer; M. E. Richards, Recording Secretary; and B. Taylor, Corresponding Secretary. The Society fenced fair grounds, and held its first fair on the 15th, 16th and 17th October, 1856. The fair was better than was anticipated. More than $600 were collected, and about $175 paid out in premiums.

On the 20th of December, 1856, the annual meeting was held. The old officers were re-elected, except two Vice-Presidents, whose places were filled by Messrs. Smyth and Moore. The second annual fair was held October 7th, 8th and 9th, 1857. The entries were double those of the preceding year; expenses were a little over $400, and $225 were paid in premiums. Some money was expended in the improvement of the grounds. Wm. S. Wait delivered an address at the fair. His whole soul was in the cause. May he live to reap his reward in the improvement and prosperity of the country.

Our prospects as a society are good, and we are determined to press onward.

O. B. NICHOLLS,
President of Clinton County Agricultural Society.

CRAWFORD COUNTY.

There was an agricultural fair held in Crawford county, in the fall of 1857; but we have no report of it. The following address was delivered on the occasion:

ADDRESS, BY HON. JAS. C. ALLEN,

BEFORE THE AGRICULTURAL SOCIETY OF CRAWFORD COUNTY, AT THEIR FAIR OF 1857.

Mr. President, Ladies and Gentlemen of Crawford county Agricultural Society:

I regret that some one more familiar with the subject of agriculture and the mechanical arts that bear upon it, had not consented to address you. To attempt to interest many of you, upon these subjects, a sense of my inability would require more self sufficiency than I feel that I possess.

I recognize among this audience, many who have spent a large portion of the years allotted to man in this life, in agricultural pur-

suits, and who in that time must have laid up stores of experience —valuable—practical experience—that I may never hope to attain; for it is known to you, that for several years, my mind has been directed to other pursuits. * * *

It cannot have escaped the observation of any one at all observant, who has seen our county, that we have three varieties of soil, each possessing distinct characteristics.

Our sand prairies, our clay prairies, and our oak lands, and to this we might add a fourth. I refer to the south-eastern portion of our county. Now the farmer that would undertake to cultivate a farm on one of these precisely as he would upon another would soon find out that he was farming to but very little purpose; and as these lands are cultivated from year to year the difference in the mode of cultivation must still become greater; hence the necessity of studying closely the character of the soil, of analyzing it, to better determine the time to plant, the manner of culture and its adaptation to the growth of particular crops, as well as the best method of restoring it when it becomes exhausted, as all must soon or late do; all these are important inquiries and their careful study will well repay the husbandman.

In a region like ours, where the soil is comparatively fresh, and before that vegetable mold which we find in all our soils, is exhausted, it will produce in fair quantities, almost any of the grains, grasses or fruits that are grown in this latitude; but as farms and gardens grow older some degree of attention must be paid to this difference.

I shall not attempt to give you a particular analysis of our different soils for I do not pretend to that intimate acquaintance with their chemical properties that would be profitable to you.

We all know that a difference exists and I know of no better way to determine the effect of this difference upon different crops than a careful experimental trial of different modes of cultivation, by which you will more certainly determine the leading result you seek to obtain.

There has been a great deal written of late years on this subject, and in works upon agricultural chemistry, many valuable hints may be obtained, but after all if we undertake to farm by a book we will often be misled, for an experiment that might be successful in one location, owing to certain peculiar qualities in soil, might be unsuccessful in another; for instance a minute description of preparing a field for wheat in Maryland or Connecticut might not be very useful in the preparation of one in our county; our virgin soil has but little in common with the exhausted red clay fields of Maryland, or the cold, clammy soil of the other. Hence the mode of preparation, in every particular, might not add to your success. In the old clay fields of Maryland where the phosphates of lime and magnesia have been exhausted, to get a good yield, they must resort to lime, plaster or guano, to restore them; and in Connecti-

cut, where the lands lack ammonia, they would advise the use of leached ashes or something of that description of manure, in their restoration. Now, in following either of these modes of preparation, here, you might give to your land more than it needed of the one, while you withheld from it what it needed of the other. Do you ask how this difference is to be avoided? I answer, by experiment, for experience is the great teacher after all; and seldom misleads; try your leached ashes, your lime and your compost and when you have done so upon different lands and different crops you will have learned more than you can learn from books.

We have had no lands in this county in cultivation long enough to exhaust the productive properties, though some may not produce well on account of the length of time they have been in cultivation; but I apprehend there are but few fields if any that may not be reclaimed and made to produce well by a proper preparation of the ground.

If you will put the plow in deeper you will reach a strata of soil yet untouched, possessing all these properties in a high degree, which was shown in its first culture. To those of you having old fields that you may imagine are worn out, we would say examine them thoroughly six or eight inches below the surface and you will find a remedy for their unproductiveness. When you have turned up the ground to this depth and exposed it to the frosts of winter and the showers of spring, you will secure a yield that will amply repay you for the labor in breaking. Most of these exhausted fields have never been plowed more than three or four inches, and for fifteen or twenty years perhaps a succession of crops have made a constant draught on their coating until their productive qualities have been absorbed; the sub-soil has become hardened, so that the roots of the crop cannot penetrate it, and the stalks having nothing to feed upon must necessarily droop if not die, and thus struggling for an existence during the growing season it cannot yield fruit. Now it is true, that after a while a succession of crops will exhaust any land to any depth that it may be cultivated; the crops by making a constant run upon the soil will finally compel it (like the banks now-a-days) to suspend; here again is a demand for more learning, but it may be obtained cheaply, by a knowledge of a proper rotation in crops; the period of suspension may be deferred for a long time. The system of rotation in crops is essential to the health and vigor of a farm; as is rotation in office, to the health of the body politic. By this rotation and the judicious use of manures that accumulate around your barns and stack grounds, the present generation will see no land exhausted in our county. Probably no labor pays the farmer better than that expended in preserving and spreading upon his land the accumulations of his barn yard; and yet what a degree of carelessness is often seen in this region. Men often permit it to lay until its strength is exhausted, when it can do no good, before putting it on their fields, and in some cases permit it to accumulate to such an extent that rather than remove

it they will remove their barns; now such economy as is exhibited in either case is unpardonable in a farmer, and thrift will follow none such. The careful farmer will either keep it under cover till he can spread it over his land, or he will form from it compost heaps, until it is ready for use on the field.

And while upon this subject permit me to suggest that we have in several places in this country, large stores of what with a little expenditure of labor and means may be made as available, in renewing worn-out lands as the guano of the Southern Islands. I allude to the muck or deposites that are to be found in our swamps and ponds near our water courses. It is formed almost wholly by vegetable matter, and will, I have no doubt, be found upon experiment to be of vast value as a manure. I am not inclined to think that taken from the bed of the swamp and applied immediately to the crop it would prove very beneficial, though upon a clay soil it might prove so, for its tendency would be to render it light and more pliable, but I am satisfied as an ingredient in the compost heap, it would make not only an addition to the quantity, but add to the quality, and when used by itself, if put in heaps for a time before spreading upon the ground with a little admixture of salt to neutralize its acidity, it would prove equal to the sea shore muck with which the fields of New Jersey have been so long kept up. In the fall season, when the water leaves it, it becomes dry and light and would be easily removed from its bed to the farm. I know not that it has been tried in this country, but that it has not is a matter of surprise to those who farm in regions where such things have to be resorted to to keep up their lands. The quantity to be put on land must as in other cases depend upon the quality of the land, and the kind of crop to be grown upon it. This, at first, must be a matter of experiment, and it is one that ought to be tried, and tried effectually, for it is by thus experimenting that such rapid advances and such grand results have been obtained in agriculture, within the last few years, and by this same process, more still are to be reached.

It cannot have escaped the observation of any, in that other department of agriculture—I allude to the raising of stock—that very great improvements have been made; compare the stock on exhibition here with what it was in our county a few years since, particularly that of cattle, and it will be very great. Although much has been done in this region of our country it is not at that point in improvement that it ought to have reached. I had the privilege last fall of attending some of the stock exhibitions in other counties in our State; and while ours shows a creditable improvement it still suffers in comparison with them. We want more public spirit and more attention to the subject among our farmers, to bring us up with them.

There is no reason why our county should not have stock that would compare with any of them. We have the soil and the capital, but lack that other essential—a spirit of enterprise—to some

extent. We have been too careful of our money in procuring the best bloods; and then we have been too careful of our labor in taking care of what we have.

The work of improving the stock of a country must be a gradual work, but we have been rather tardy in beginning.

It takes no more feed to raise a horse or cow or sheep of the best blood than it does to raise a scrub, while the profit of raising one will not compare with the other. If we have the means to procure a stock of cattle that will weigh a thousand pounds at a year old, that we would be contented to raise such as would hardly reach this weight at three years old, would seem strange, but this is our condition to a very great extent.

Nor have we done what we ought in regard to what we have. How few of our farmers have a shelter for even their milch cows; and yet how trifling is the expense of erecting one. I submit to any one who has tried the experiment of a good shelter and a convenient place for feeding, if what is saved in one season in the way of feeding will not well pay for erecting them, to say nothing of the improved condition of the stock itself.

The dictates of humanity ought to induce us to provide them with shelter when it is possible, and the same is true with regard to all kinds of stock, and until our farmers go earnestly to work to remedy these evils, we must necessarily ride poor horses, eat poor beef and mutton and sell our stock for low prices. With the present improvements in agricultural implements and labor-saving machinery, there is no good reason why we should not take a high rank as an agricultural community.

When men had to break their grounds with old fashioned plows such as were used twenty-five years ago, there was some excuse for shallow plowing, but with the improved plows of the present day there is none. When men had no other way of cutting their wheat but with the sickle, or of threshing it but with the flail, there was some excuse for not sowing much. When men knew of no other way of mowing their meadows but with the old scythe and straight snathe, it is not strange that they should have raised but little hay; but with the introduction of reapers and mowers a corresponding advance is demanded in the mode of farming. I never see one of these reapers or mowers sweeping over a field of grain or grass but I feel that monuments as enduring as the eternal hills ought to be erected to those who invented them.

We have not witnessed the end of these improvements yet, nor will the end be seen until a bound can be set to human genius. It was but the other day I saw a thresher at work moved by steam. It was built on wheels; two ponies could draw it from one barn to another, and when set all it wanted was a load of dry wood, some one to feed it, a few active hands to tend it, and it would thresh with the power of six horses. The cost of it will not exceed six hundred dollars. Not only this but other improvements will find their way to us, if we are but true to our own interests.

Farmers of Crawford, you must awake, or this age of steam will leave you in the clouds of "old fogydom" for there are "fogies" in farming as well as in politics.

When I first came to your county, I remember the general impression was that our farmers would not succeed in raising wheat to any great extent—that our soil was not well enough adapted to its growth to justify a general attention to it; but this was an error, for the last few years have demonstrated the fact that ours is quite equal to any other for the growth of wheat. What led to this error? It was the inattention of those who tried wheat in the selection of seed and carelessness in putting it into the ground. It was usually sown in such a way as to expose one-half of it to the fowls of the air while the other half, owing to the condition of the ground, was left in such a way as to invite the frosts of winter to its destruction. No wonder that our farmers could scarcely raise wheat enough to bread them. Men often attribute to the earth or to the season a failure of crops, when the truth is, their own careless negligence is the cause of failure. It was thought this could not be a wool growing country—that sheep could not thrive. Men would start with a flock of sheep, and in a few years would have none. Why? Because what escaped the ravages of dogs and wolves were often suffered to perish for food and from exposure to the storms of winter. But now, shelter and care shows this to be a good wool growing country; and so of other things.

There is not, in this broad land, from the everglades of Florida to the shore fishery of Maine, or from the shore of the Atlantic to the foot of the Rocky Mountains, a country possessing more advantages for agriculture than the Wabash Valley, and no county in that Valley better adapted to it than our own. What we lack is not climate or soil, but enterprise and public spirit.

Now the object of agricultural societies is to encourage and excite a spirit of emulation among our farmers, our mechanics, our stock raisers and stock dealers. They have already done much in this regard, and are destined to do still more.

Then let every one go home from this Fair determined to come to the next with the very best specimens that your skill and labor can produce, and after awhile you can make it what it ought to be: a credit to your country and to your state. You will all be better pleased with yourselves, your neighbors, your county; you will be better and happier.

Ladies! in all the great enterprises by which the condition of our race has been ameliorated, the influence of your sex has been seen and felt, and it is a wise arrangement in the economy of these societies that make you co-workers with the husbandman in going to these Fairs.

What difficulties you have had to encounter in your department of this society, I do not know. How well you have overcome them I am illy fitted to judge. That they have been great I have no doubt, but in the result of your efforts I see much to admire.

Though it may not be all that your hopes have cherished or your pride demanded, yet it is to be remembered that this is but your second attempt.

That intuitive perception with which your sex, for wise and beneficent purposes, has been endowed, will doubtless suggest many improvements for the future, and with the exercise of a fair degree of that perseverance for which you are distinguished, you will always make your department the most attractive on these occasions: for while other departments depend, for their support, upon appeals to the purse, yours receives its strength from appeals to domestic comfort and to the heart. I shall not detain you by appeals to my brethren to second you in making your department what it ought to be, and what I believe it will be: a complete success; for with them you are stronger advocates than I could hope to be.

And now, with the hope that this festival has been the means of awakening a better feeling—a more determined interest in the several departments of agriculture in our county, I bid it God speed.

DE KALB COUNTY.

The first annual fair of the De Kalb county Agricultural Society was held in Sycamore, on Thursday and Friday, October 1st and 2d, 1857. The morning of the first day of the fair the weather was discouraging, and the fact seemed to be that there was to be a wet, disagreeable time. But it was soon apparent that the farmers of De Kalb had no idea of permitting a failure of the fair on account of unfavorable weather. The streets of Sycamore became crowded with teams and wagons, which were filled with farmers their wives, their sons and daughters. The articles for exhibition were collected upon the grounds, and placed in order for exhibition. These grounds were a portion of the premises of Carlos Latten, Esq., and were supplied with stalls and other necessary fixtures for the occasion.

On the second day the weather had not changed for the better; it being chilly and drizzly. Still, at an early hour, the farmers came in from the country much more numerously than the day before. The exhibition building was filled to its utmost capacity with various articles, productions of the handiwork of the sons and daughters of De Kalb, and with specimens of the prolific fertility of the soil. The stock department was well filled with horses, cattle, sheep and swine. Agricultural implements, etc., were numerous and fine. On the whole, under the peculiar circumstances of the weather, the fair was quite successful.

The following remarks are appended to an official account of the proceedings of the fair:

"CULPABLE NEGLECT.

"Numbers of our citizens possessing articles of their own handiwork, which they occasionally take some little pride in showing to their visitors, neglected taking them to the fair. If these things are worthy of being pointed out to people with a view of eliciting their admiration, they are worthy of being taken to the fair, where people go expressly te see and to admire. 'Why didn't you take that to the fair?' we asked of a man who was showing us a skillful piece of work. 'Oh,' said he, 'it will do to show to a few privately, but I consider it nothing great, and don't want to make a blow about it.' Good friend, there you were casting an imputation upon the County Agricultural Society. The society was not formed as a 'blowing' institution, nor are county fairs gotten up for the purpose of selfish parade. The objects of the one are to promote the interests of agriculture and exalt the dignity of industry: the uses of the other are to illustrate and develop the natural resources of the county, exhibit the degree of cultivation attained by her husbandmen in tilling the soil and rearing beasts of burden and sustenance, and expose the productions of the skill, taste and genius of her artisans. It was simply a legitimate duty of yours, if you had an article on which you bestowed extra labor or in the construction of which you had exercised unwonted ingenuity, to take it to the fair. Every mechanic in the county who is not ashamed of his work ought to have some specimens of it at the fair.

"A LESSON TAUGHT.

"We trust that the inconvenience, confusion and trouble caused by the want of complete and effective organization on the fair ground, will afford a lasting lesson. Everything on the ground should move like clock-work. The duties of the several judges should be clearly and distinctly defined, and no margin should, when it can possibly be avoided, be left for equivocation or dissatisfaction. The judges should, by all means, guard most carefully against mistakes. A premium wrongly awarded produces a double train of deleterious consequences. It causes ill-feeling and discouragement in the meritorious competitor, while it encourages the exhibition of mediocre stock of articles—to say nothing of the injury it does to the reputation of the judges. If everything is properly managed, if the judges have not too many duties crowded upon them, and if the exhibitors are explicit in their entries, and the stock or articles entered kept in their places, there need be no occasion, and can be little apology, for any errors of importance in awarding premiums.

"THE RAIN.

"The rain was one of the most prominent articles on exhibition at the fair. It was always on hand. It rained at morning, at noon and at night. It sprinkled, drizzled and showered—showered, drizzled and sprinkled. Everybody and his wife got wet—which, however, did not seem to disconcert them, as they had made up their minds to have a good time, and were bent on having it. The rain came as Doesticks took his beer when 'on a bender' at Niagara. First came a little rain, then some more rain, then it rained a little, then some rain came down, then we had a little rain, then, to vary the scene, it rained, and after that we had some more rain, and finally we had some rain. The weather during the whole of the fair was most admirably calculated for the blues. Taking this into consideration, as we said before, the success of the fair was remarkable."

AARON K. STILES, *Secretary.*

DU PAGE COUNTY.

Our county, though small, is not backward in agricultural enterprise, as not only our own Agricultural Society, but the interest manifested by our citizens in the success of the State Society will prove. It is now four years since our County Agricultural Society was first organized, during which time rapid strides in improvement and interest have taken place.

Our Fairs, from the first, have each been attended with and been participated in by all with deep and increasing interest. It is generally believed that much improvement has taken place since our Society's organization, that had it not been for its formation, would have still lain dormant. Even those who opposed, as well as others who looked on with indifference or lent a passive assistance, are now manifesting deep interest. Many of those who before declared that all stock was alike, with the difference of care, are now exhibitors of improved stock. In fact, though we are small, both as to space as well as numbers, we may set an example to many larger counties worthy of imitation. We have amongst us some very excellent stock. Horses, that might be exhibited with credit in any part of the state; Cattle, that have been deemed deserving of attention and of the first premium of your Society; Sheep, that have been exhibited at most if not all the State Fairs, and have taken their full share of awards, especially at the last. In plows we have proved ourselves second to none, as the Farmer bears testimony, (and who so competent to judge?) but not more than the judges at your Fairs—as well as other agricultural implements. In plants and flowers as well as in fruits I believe our county has ever stood in the foremost ranks. In many other articles we have

been deemed deserving of some notice. From these facts we flatter ourselves we are not deficient in that which elevates the agriculturist, nor are we among those that think there is no good to be derived from Agricultural Societies, for, independent of the sociability it engenders, we are of opinion that it creates a feeling of friendly emulation, which works to the good of the whole community.

The officers of our society have been men of enterprise, who have looked to the agricultural interests of our county. Three out of four years of our existence Lewis Ellsworth, Esq., one of the ex-Commissioners of the State Society, and one who has the agricultural interest of the whole state much at heart—a man of energy, enterprise and ability, has been our presiding officer, and doubtless this circumstance in a great measure accounts for our present prosperity. The other year our Society was presided over by James E. Hatch, Esq., a farmer of intelligence, skill and ability. Our other officers have been such as the Society have placed unlimited confidence in, so that we have always worked most harmoniously together.

Our Fair Grounds are now permanently located at the village of Wheaton, on the Galena and Chicago U. R. R., as convenient a site as could be secured in our county, being central and beautifully situated. It contains twenty acres, fifteen of which were donated to the Society by the liberality of the Messrs. W. L. & J. C. Wheaton, the other five were purchased and donated by a few enterprising citizens. The whole is inclosed by a good, substantial fence, which, together with other improvements, is subscribed by stock subscription all over the county. When all the buildings and improvements are complete, the value of our grounds will not be much less than $10,000, and will be a monument of enterprise to our county and a credit to the agriculture of our state.

The crops in our county have been most abundant this past season. In wheat, barley and oats probably never better. Potatoes fully as good as last year, when they were excellent and most abundant. Corn will be an abundant crop, but fail, to some extent, in quality, the spring being backward, the summer not very favorable and the frost rather too early in the autumn. There will, consequently, be some portion of the crop unsound. There has been some little of the Chinese sugar cane planted, all over the county; almost every farmer having a small patch. Some few have had enough to experiment with, and several have succeeded in making an excellent article of syrup. Much interest is taken in this plant, and many are the sincere and sanguine hopes that success will attend the efforts of those who engage in its cultivation. Doubtless our County Society will offer all the inducements in its power for the cultivation of this plant in this county. Other crops of roots, &c., have been equally good. The farms of DuPage county will compare, in the state of cultivation and improvement, favorably with any other county in the state, as also will the farmers for

intelligence. We are well stocked with fruit, every farm having an orchard, some of quite large dimensions. We are highly favored by having the superior nurseries of L. Ellsworth & Co. in our midst. Our Farmers use a good deal of machinery of various kinds on their farms. The premium plows of S. C. Vaughn & Co. being manufactured at this place is a particular advantage to the farmer.

The western farmer has truly been blessed this year, and has more than usual good reason for thankfulness to a bountiful Providence; for while every other profession is being harrassed with the financial state of the country—while the artizans and laboring men of the east are suffering, many with the prospect of starvation staring them in the face during the cold, bleak, unhospitable winter, the farmer of the west is blessed with abundance for all his wants and to spare. Let us be truly thankful to the Giver of All Good, always remembering the wants and necessities of others.

JAMES G. WRIGHT,
Commissioner for DuPage County.

FAYETTE COUNTY.

Officers for 1857:

President—M. Fehren.
Vice-Presidents—J. T. Donaldson, Benj. Watson.
Secretary—Geo. L. Jackson.
Treasurer—F. Reman.

The Fayette County Agricultural Society was organized on the 14th of March, 1857. The first fair was held near Vandalia on the 18th and 19th days of September, and notwithstanding the unfavorableness of the weather, the exhibition was very creditable to the people of the county. There were over four hundred entries. One hundred premiums were awarded, varying from one to five dollars, and amounting in the aggregate to near three hundred dollars.

The Society has purchased twelve acres of ground near the town, and will fit it up as rapidly as may be for the next fair, and in the fall of 1858 it is expected that a large amount of stock, agricultural implements, farm products and other articles will be offered for exhibition.

GEO. L. JACKSON, *Secretary.*

HANCOCK COUNTY.

The Fair of the Hancock County Agricultural Society was held at Warsaw, on the Mississippi river, October 1st and 2d, 1857, on

temporary grounds arranged for that purpose. The weather being favorable, there was a good attendance—better than ever before. The receipts and expenditures were about equal, and amounted to one thousand dollars. The exhibition of stock surpassed former Fairs, showing that Hancock county farmers are beginning to look in the right direction. There was a good variety of farm implements exhibited. The exhibitions of fruit and vegetables were small, but of good variety. All who attended the Fair were pleased with the proceedings.

The Board of Managers met on the 17th December, and took measures for procuring suitable grounds on which to hold subsequent Fairs. We hope to succeed. Our county has been kept back through Mormon influences; but these are passing away. We have as good a county of land as any in the state, and all we want to develop its advantages are enterprise and industry.

The past year has exhibited great improvement, and every thing bids fair for healthy progress.

Annexed are some statistics of Hancock county:

Number of Horses	8,212	Assessed value	$579,982
" Neat Cattle	28,021	" "	374,671
" Mules and Asses	798	" "	69,127
" Sheep	9,207	" "	10,672
" Hogs	41,787	" "	129,593
Total No. of animals	88,025	Total assessment	$1,164,045

Area of real estate, 488,300 acres.

Assessed value of real estate, excluding town lots	$4,907,841
" " Town lots	1,317,850
" " Personal property	2,000,425
Total assessed value	$8,226,116

State and county tax	$75,679 06
Road tax	3,772 75
School tax	28,513 69
Town tax	3,820 90
Railroad tax	12,335 88
Total	$124,122 28

It will be observed that the school tax appears large in proportion to the other taxes. It is occasioned by building school houses, of which we have been somewhat deficient heretofore.

GEO. W. BATCHELDER,

Sec. Hancock Co. Ag. So.

HENDERSON COUNTY.

Officers for 1857:

President—Hiram Ross.
Vice-President—Lambert Hopper.
Treasurer—Charles C. Cowan.
Recording Secretary—J. M. Fuller.
Corresponding Secretary—Wm. L. Stockten.
Executive Committee—John Curts, A. J. Waterhouse, R. W. Ritchie, Samuel Darnell, R. W. Crane.

The Fair of 1857 was held on the 8th and 9th days of October. There was a great number of people in attendance, and an interesting exhibition. The whole affair exceeded the expectation of every one.

The amount received for membership was	$251 00
" " sale of tickets	190 67
Total amount received	$441 67

J. M. FULLER,
Rec. Sec. Henderson Co. Ag. So.

HENRY COUNTY.

The fair of Henry county for 1857 was held two days—October 22d and 23d. The entries in the different departments embraced horses, work horses, jacks, jennets and mules, Durham cattle, Devons, grade stock, sheep, swine, poultry, products of the dairy, fruits, needle-work, farming implements, grain and garden vegetables. The fair was closed by a trotting match against time—3:12.

The first premium for best garden was awarded to E. F. Brown, Esq., of Geneseo. The report of the committee states that he had four acres of land in cultivation, that it was laid out tastefully and conveniently, and was under superior cultivation. On either side of the walk, from the gate to the house, flowers of many varieties greeted the eye; while, near the house, evergreens were so arranged that in a few years they must greatly enliven the dreariness of winter, and make his residence a "sweet home." The garden was well supplied with fruit trees, and there was a fine display of the choicest varieties of vegetables.

Benjamin Fry, of Kewanee, received the first premium for the best cultivated farm. The Committee on Farms give these practical remarks in their report: "Farmers! cultivate less land, and do it better. Why plow, why seed, why till one hundred

acres of land to get what can be grown on twenty-five? Why feed four steers to get the beef that could be made on two frames? Why feed two steers on the ground and in the cold, when the same feed will keep four well housed? It is the opinion of the committee, that if our over-burdened farms could speak, they would mildly ask to be relieved of the loads of weeds that are dragging them down to poverty."

THOS. F. DAVENPORT,
Cor. Sec. Henry County Agricultural Society.

KANKAKEE COUNTY.

The fair of Kankakee County Agricultural Society for 1857 was held on the first, second and third days of October. The weather was very unfavorable during the three days of the fair, being rainy and cold. However, there was a good turn-out of the people. Receipts of the first day, $126; second day, $231 25; third day, $133 53—total, $490 78. The premiums awarded were mostly paid in cash, amounting to above $300.

We have our grounds now inclosed with a seven foot fence. They embrace twelve acres. There is a small creek of living water running through one corner of the lot, and there is a small grove of second growth timber within the inclosure. It is a most delightful place for a fair ground; and we fondly anticipate that our society is based upon a firm foundation, and will flourish.

JAMES M. PERRY, *Secretary.*

LA SALLE COUNTY.

Officers for 1857:

President—Wm. Cogswell.
Vice-Presidents—J. H. Armstrong, David Green, E. Baldwin.
Treasurer—F. R. Courtney.
Recording Secretary—J. O. Harris.
Corresponding Secretary—J. D. Pennell.

The members of the La Salle County Agricultural Society are pleased with their prospects, and they are determined to spare no effort to make it one of the most successful societies in the State. The fair of 1857 was a very satisfactory one. The number of entries follow:

Horses, all kinds, 135; Cattle, Durhams 31, Devons 21, natives 29; Sheep, Merinoes, 16; Swine, Berkshires, 12; dairy products, 40; products of the farm, 160; Poultry, 40; Flowers and plants,

10; mechanical articles, 38; Fruits, 158; Paintings and drawings, 13; and many other entries, which were referred to the Committee on Miscellaneous Articles, numbering 83.

The amount of money received was nearly $1,200, although the rain prevented many from attending on the last days. The amount of cash premiums offered was $585; number of diplomas, sixty. Col. W. H. L. Wallace, of Ottawa, delivered the annual address. The whole proceedings at the fair were highly pleasant.

The Society have ten acres of ground, well fenced, on which there are a good number of sheds and buildings. The Society is free from debt, and has money in the treasury. Our farmers take great interest in the success of the Society.

J. D. PENNELL,

Secretary La Salle County Agricultural Society.

MADISON COUNTY.

HISTORY OF THE MADISON COUNTY AGRICULTURAL SOCIETY.

At a meeting of the farmers of Madison county, convened at the court house in Edwardsville, on Saturday, February 9, 1822, Micajah Cox, Esq., in the chair, and George Churchill Secretary,

On motion of Mr. Coles, it was unanimously

Resolved, That the members of this meeting do form themselves into an agricultural society.

Resolved, That a committee be appointed by the Chairman, to draft rules and regulations for the government of this Society.

Whereupon, Edward Coles and Paris Mason were accordingly appointed, who reported "Rules and Regulations," which were subscribed by Messrs. Micajah Cox, Edward Coles, Curtiss Blakeman, George C. Allen, James C. Canfield, Jarrot Dugger, Isaac Ferguson, John Murray, Paris Mason, Jordan Uzzell, Rowland P. Allen, Henry Kelly, Abraham Prickett, Justus D'Seelhorst, George Churchill, Robert Reynolds, Sen., Wm. Ottwell, Jacob Judy, Daniel Meeker, Robert G. Anderson, Robert Pogue, Wm. C. Wiggins, Robert Collett, John Todd, Charles W. Hunter and David Swett.

The members present then proceeded to the election of officers, whereupon the following gentlemen were declared duly elected:

Curtiss Blakeman, President; Edward Coles, First Vice-President; Isaac Ferguson, Second Vice-President; Abraham Prickett, Treasurer; George Churchill, Secretary; John Murray and Robert Reynolds, Sen., Corresponding Committee.

The Society having been thus organized, the following resolutions were adopted:

Resolved, That a piece of plate of the value of five dollars be presented for the most approved essay on the best mode of pickling and preserving pork, and pointing out the causes of the difference in value between the New England and Western pork.

Resolved, That a premium of similar value be given to the person who shall make the best specimen of malt liquor, not less than thirty gallons.

Resolved, That a premium of similar value be awarded to the person who shall produce the greatest number of wolf scalps—not less than five—taken by himself within the limits of Madison county.

Resolved, That a premium of similar value be awarded to the person who shall manufacture the best piece of linsey woolsey, not less than twenty yards.

Resolved, That a premium of similar value be awarded to the member who shall raise a year old lamb which shall produce the greatest quantity of wool.

Resolved, That a piece of plate of the value of three dollars be awarded to the person who shall make the greatest quantity of proof spirit—not less than thirty gallons—from a given quantity of domestic grain.

After which the Society slept, with most of its founders, until, on Tuesday, October 31, 1854, a number of gentlemen assembled at the court house in Edwardsville, formed themselves into a society of the same name and style, adopted rules and regulations for its future government, and elected Thomas Judy, President; Jacob J. Barnsback and four others, Vice-Presidents; W. T. Brown, Treasurer; John A. Prickett, Secretary.

The Society purchased ten acres of land near Edwardsville, had the same suitably inclosed, erected two sheds, fifty feet in length each, and a sufficient number of stalls and pens for the accommodation of stock and articles to be exhibited, and held the first annual cattle show and fair on their grounds on Sept. 13th, 14th and 15th, 1855. Number of entries for exhibition, 360. The list of premiums offered amounted to $800. Very few premiums were claimed by exhibitors, the majority of them donating their premiums to the Society. From the Secretary's report, it appears that the expenses at the close of the fair, including the price of the land and improvements, were $1,472 82; receipts up to same period, $1,211.

At a meeting, held September 3, 1855, the second election for officers of the Society resulted in the choice of Josiah K. Gillham, President; John Weaver and fourteen others, Vice-Presidents; Wm. J. Barnsback, Treasurer; John A. Prickett, Secretary.

The second annual fair was held at the fair grounds, on the 16th, 17th and 18th September, 1856. List of premiums offered, $1,000; number of entries for exhibition, 470; expenses for the second year, as per Secretary's report, including the last year's debt, $770 45; receipts for second year, $743 05.

At a meeting held Nov. 5, 1856, the following named officers were declared duly elected:

Jacob J. Barnsback, President; A. P. Mason and fourteen others, Vice-Presidents; Wm. T. Brown, Corresponding Secretary; John A. Prickett, Recording Secretary; and William L. Boyd, Treasurer.

At a meeting of the Society, held at Edwardsville, April 1st, 1857, it was

Resolved, That this Society do avail themselves of the provisions of the act of the General Assembly of the State of Illinois, approved February 8, 1857, entitled "A general act

for the incorporation of County Agricultural Societies;" and that our organization shall be conducted, in all respects, in conformity with the provisions of said act.

On motion, Joseph Gillespie, William T. Brown and Henry K. Eaton were appointed a committee to inquire into the expediency of modifying the constitution of this Society, in conformity with the provisions of said act.

On motion, the Society adjourned, to meet again on Monday, May 4, 1857.

—

The Society met pursuant to adjournment, and, on motion,

Resolved, To purchase from J. and D. Gillespie five acres of land, adjoining the fair grounds, for the sum of $250.

On motion, the Society adjourned, to meet again July 7, 1857.

—

The Society met pursuant to adjournment.

Present—Jacob J. Barnsback, President; the Secretary, and twenty-five members.

Whereupon, Messrs. Gillespie, Brown and Eaton, the committee on constitution, made a report, recommending, "for the purpose of forming a joint stock Agricultural Society, in pursuance of the provisions of a general act passed by the General Assembly, and approved February 8, 1857," a constitution or organic law, having for its object the improvement of the agricultural, horticultural, mechanical and household arts, with a capital of not more than $20,000. The Society may own not exceeding three hundred acres of land, on which to maintain and carry on a model farm; the stock to consist of shares of five dollars each, and no member to hold more than one hundred shares; the business of the Society to be transacted by a board of seven Directors, elected annually by the Stockholders; the Directors to elect their President, Secretary and Treasurer.

On motion, the same was adopted unanimously.

On motion, the Stockholders—230 shares being represented—proceeded to ballot for a Board of Directors, which resulted in the choice of Jacob J. Barnsback, Aaron P. Mason, George S. Rice, Thomas Judy, Jacob J. Kinder, William T. Brown and John A. Prickett.

At a subsequent meeting, said Board elected Jacob J. Kinder President, John Weaver Vice-President, Wm. L. Boyd Treasurer, and John A. Prickett Secretary.

—

The third annual fair was held at the fair grounds, on the 9th, 10th and 11th September, 1857. Number of entries for exhibition, 650; list of premiums offered, $1,300; expenses for third year, $3,500; receipts for third year, $2,013 12.

From the foregoing, it appears that the Society is indebted in the sum of $1,486 88, to meet which is stock subscribed for and unpaid, amounting to $1,575; so that the Society, having fifteen acres of land, and improvements upon the same which have cost not less than five thousand dollars, may be considered in a reasonably safe condition.

Of the items named in the resolutions of the first society, not one is considered of sufficient importance to merit the encouragement or fostering care of our present Society. It is presumed that the efforts of the first Society were successful in placing Western pork on an equality with that of New England—the Western pork raisers having ceased their complaints. Malt liquor is *working* its way to eminence without public encouragement. Whisky is not considered weak. Wolf scalps have ceased to be currency. Linsey woolsey is not an institution of the country, and there are less than four thousand sheep in the county.

JOHN A. PRICKETT, *Secretary.*

MERCER COUNTY.

The annual fair of Mercer county for the year 1857, was held on the first day of October. It was a great success. Every part of the county was represented by exhibitors and visitors, and every thing went off to general satisfaction. The entries were more numerous than last year. The people will sustain the Mercer county Agricultural Society. Every year satisfies them more and more of the great advantage derived from it, and the feeling of the Society is to press onward.

The address of Dudley Willits, Esq., at the fair, was well received. It was peculiarly applicable to the condition of things in the county. A copy is sent for publication in the Transactions of the State Society.

D. WILLITS, *Secretary.*

Mr. Willits in his address said—

I would consider that I was paying a very poor compliment to the intelligence of this assembly, if I were to detain you for an hour with such a wishy-washy milk-and-water talk as would neither please or displease any one. We are not met, my brethren, in some secret garret with closed doors to plot together for the success of some faction either of church or state. But we are here in the beautiful grove, under the broad canopy of heaven, to encourage agriculture, horticulture, the mechanics and household arts, and indeed to co-operate together to make every branch of useful toil not only honorable but remunerative, and to unite in carrying out such reforms as the spirit of the age has suggested

for elevating and ennobling the toiling millions of mankind. If there is a time and place under heaven, where our speakers may be allowed to give manly utterance to the honest dictates of their hearts our annual gatherings are the place. The time is not far distant, when the masses will remain together for ten days, discussing all questions of National and State policy and sending out an influence that will control our government.

In looking over the thousands of well-dressed and intelligent men and women, girls and boys, fine stock, neat farming implements, labor-saving machines, etc., etc., my mind has been carried back to the early settling of our so called western country. I see before me a goodly number of individuals that have been trying this forty years to get out of the settlement. They have come at various stages from Pennsylvania, Ohio, Kentucky, Indiana, etc., to Mercer county, Illinois, and they are here amid this two acres of their fellow-beings, looking not only civilized, but christianized, contented and happy. But we have been slipt up on, sure. Those of us that came here twenty-five years ago, were quite sure we had given the world the dodge. Our more prudent friends, finding they could not deter us from so daring a feat, gave us the reluctant parting hand; adding, through their sobs and tears, that they never expected to see us again. Well, when ten or a dozen of us got away out here to the Mississippi, we verily thought that all this county was ours from henceforth. We were going to be as independent as kings; could hunt, fish, trap, etc. Once a year, four or five of the cutest of us would get around fifteen or twenty fat cattle and scare them down to St. Louis, where they would bring from eight to twelve dollars per head. There we would take us a good *high*, visit the church, the theatre, the groceries and glut ourselves with the luxuries of city life, lay in our whisky, tobacco, powder, lead, flints, fish hooks, butcher knives, salt, etc., and row them home in a canoe. But alas, for human hopes. This day bears us witness that after all our toiling and traveling to get out of the world, we are at last right in the middle of it. Our friends that cried over our departure, have followed suit; some of them too late to get a foot hold here, have gone on toward the setting sun. The fact is, we may as well give up to stand our ground and to live and do as white folks do. Our migrating habits of living in the west, has led us into a most wretched, scattering manner of farming. Our friends that have come amongst us from the east, are not only astonished but ashamed of us in this respect. We have been told that we should have some learned man to address us on occasions like the present, who could show us the great advantage it would be to us, if we but understood the science of agriculture, so that we could analyze our soils, and tell what crops they are best adapted to, and how to restore the necessary ingredients for certain other crops, etc., etc. Now I doubt not but there is a world-full of glorious truth in this direction, of which we can say nothing as we only see through a glass darkly. But

with us, there is room for vast improvement before we enter the A B C of scientific farming. If I lived fifty miles from here, I should certainly give you a very plain talk on this subject. But as it is, we will be modest. It is true, however, that us western farmers have been skimming God's heritage, taking the cream off, and leaving for parts unknown, until humanity has a heavy bill against us for wasting the vital energies of mother earth, and it becomes us to set a better example before our children.

As a general rule in the western States our lands have deteriorated one half in the course of the first twenty years' tillage. We have become so accustomed to this result, as to look for it as a natural and necessary consequence. I have no doubt, however, but with a proper knowledge of farming, our virgin soils could be improved in as large a ratio as we have been impoverishing them. When we contemplate, Mr. President, the vast amount of life-sustaining matter that is annually thrown away by us improvident farmers, and the increasing high prices that every eatable claims in all our markets, and the probable increase of human beings, the subject of better farming presents itself as one of the questions of the age. Many persons that have not tried it, supposing that a few years' farming at present prices cannot fail to make a man so rich that he would not know himself; but I have found otherwise. Prices are as high as any one could desire, surely; but everything else is nearly as high, and our mode of farming is so wasteful and reckless that you may see men in all parts of the country that are working their lives out, and their families, and their horses, and are getting their farms poor, and one of these days they will die poor, before their time comes. Almost any man can learn to practice law, peddle pills, or read sermons, but for a man to be competent to take a farm and stock it up with the right quality and quantity of all kinds of stock, and so manage it as to bring it to its greatest perfection; and rotate his crops, and manure and resuscitate his lands so that their fertility shall keep pace with the increasing demand, requires a better judgment, and will one day get a better education than is necessary for any other calling.

As agriculture was the first employment of our first parents, even so it is the last pursuit that can ever be abandoned, and were I a young man to-day, with what little experience I have of the world, my highest ambition would be to make myself a model farmer. I do not profess, fellow-citizens, to be as good a farmer as many of you that I see before me. But with all due deference, I beg leave to offer a few brief remarks respecting what I consider the best policy for us farmers to pursue.

In the first place, we should bear in mind that mother earth will not suffer herself to be robbed from year to year and get nothing in return. And if we treat her with so much injustice, we may rest assured she will do herself the justice to starve us until her vital energies are restored by rest. To this end, let us put down in grass a part of our land for hay and pasture; get as

much of the very best stock we can obtain, as will consume on the place all the grain and roughness we may raise. We have been hauling mountains of grain to our river towns, to be shipped abroad to make whisky, and buying droves of horses from Indiana, Ohio and Kentucky, at an average of one hundred and twenty-five dollars per head, and scores of mules from Missouri at three hundred dollars a span. Is there any comment necessary? Was greater inconsistency ever practiced? No, no; let us quit loading our boats with corn, and they will soon take the hint that we have more sense than to wear ourselves and farms out and take it in whisky. But we may be told that if farmers in general should put all the grain into stock, that it would be greatly reduced in price, to which we say amen. Let the price of horses, cattle, sheep and hogs be reduced one half and still we will get a better price for our grain than to sell it at what would be the average price. But this thing of getting sixty or seventy cents a bushel for a little dab of corn, once in four or five years, is the ruin of some of our farmers. It knocks all these sober practical calculations into a cocked hat, and they wish for nothing but corn, corn.

Let us illustrate: three years ago, for a rarity, corn was high; some of the farmers in a certatn neighborhood, must and would sell their hogs in order to get the big price for corn. Well, neighbor M. had plenty of hogs and still plentier of corn; he buys their hogs at very low figures. A few months roll round and these men have corn to sell to neighbor M. at about ten cents a bushel. They had but just got a start in hogs again, and here comes such a big bid for corn, that they cannot stand it to see an ear of it eaten. Martin sold his pork at the time alluded to, at six dollars per hundred, and he says he has never discovered but his stock liked corn as well when it was worth fifty or sixty cents a bushel as when it was worth but ten.

My advice, then, to be brief, would be to plow deep; farm thoroughly; have enough of the best stock you can get, to consume what you raise; never waste your grain because the price is low, or starve your stock because it is high. It won't pay, and not only so, but every good man feels himself under a moral obligation to provide for all of God's creatures that he takes into his own charge. But our most common and culpable neglect, perhaps, is respecting our stable manure, straw, corn stalks, etc. Every farmer should have cattle enough to trim his stalks on the ground. If the corn has been good, and is husked on the stalks, the pasture is worth $1 50 per acre, and then if you will run your cutter over the standing stalks, they can be plowed under without inconvenience or injury to the succeeding crop. I consider the gain is equal to two dollars per acre, over the common practice of nearly losing the benefit of the pasture, and then cutting and burning the stalks, or foregoing the trouble and loss to the new crop by leaving them on.

Our straw, if our grain is cut as green as it should be, and is

carefully handled, is excellent feed, and should by all means be consumed on the poorest portions of our farms. But many farmers treat the straw that comes from fifty or sixty acres of land, as if it was a deadly nuisance. They will not even let it go back to the ground it came from, but will tumble it into some slough or set fire to it; and then, perhaps, go off three or four miles and make and haul home coarse slough grass for their stock, that is not half as good as the straw that they destroyed; and as to making all the stable manure we can by keeping our barns or stables furnished with straw for bedding stock, and hauling it on our thinest land, it is more common to let our horses lie down in their own filth, not to clean the stable until we are compelled to and then pitch it down the hill to get it out of the way.

I was passing by one of our big farmers' place, last spring, and saw that he had hauled several wagon loads of manure and dropt them in the high way. I suppose he considered his farm rich enough, and there was perhaps a few grains of corn in it that he wished his pigs to get. Now such conduct is simply ridiculous, and ought to be punished by fine and imprisonment.

MONTGOMERY COUNTY.

Officers for 1857:

President—Henry Richmond.
Vice Presidents—Albert Dryer, Elihu Bean.
Treasurer—W. C. Miller.
Secretary—J. W. Kitchell.

The Montgomery county Agricultural Society has existed as an association for about four years, but was not incorporated until last June. Hitherto exhibitions had been held in open ground. Last summer, grounds adjoining Hillsboro were purchased and inclosed with an excellent fence, and the inside filled up as well as could be expected in so short a time. The fair which was held on the 21st, 22d and 23d days of September, 1857, greatly surpassed any preceding one. A special fair was subsequently held in October, for the exhibition of horses, which was likewise quite successful. The gross income of the society, during 1857, including subscriptions, was $1,632, which, when expended, still leaves it in debt about $200; but this small amount will be raised without difficulty; the society have the guaranty of good men for enough to place it in an independent position.

J. W. KITCHELL, *Secretary.*

OGLE COUNTY.

Officers for 1857:

President—Samuel Hill.
Vice President—A. E. Hurd.
Cor. Secretary—E. M. Light.
Secretary and Treasurer—John M. Hinkle.

The annual cattle show and fair of the Ogle county Agricultural Society, for 1857, was held on the 30th September, and 1st and 2d of October. The exhibit of cattle, horses, hogs and poultry was good; but not so numerous as at previous shows. The show of fruit and fancy articles was fine—farming implements, seeds and grain, but meager. The wagons and carriages exhibited exceeded in numbers and excellence any previous exhibition.

The society has ten acres of ground on the west bank of Rock River, beautifully situated, and inclosed by a tight board fence, seven feet high. There is a general feeling of interest among the citizens of this county for the prosperity of the agricultural society, which warrants the belief in a successful future.

E. M. LIGHT, *Secretary.*

PIKE COUNTY.

The Agricultural Society of this county has been in existence about five years. It was commenced under discouraging circumstances; but its friends, by constant and untiring effort, have brought what was considered an experiment into the condition of a fixed fact. The fair of 1857 was held at Pittsfield, on the 14th and 15th of October. The weather was fine, and by noon of the first day the stalls and pens were filled with stock, and the sheds with the products of the dairy, the orchard, the loom and the needle. Indeed, the exhibition greatly delighted the members of the society, and the numerous throngs of people who attended. It was decidedly an advance on all fairs that had ever been held in the county. From three to four thousand persons were at the fair—and these from all parts of our county.

We are making arrangements for purchasing grounds, so as to locate the fair permanently at this place—believing that when we have our fairs upon inclosed grounds, we can double our receipts; and by these additional means, thus acquired, offer a larger amount of premiums, put up better stalls and buildings for the fair, and thus secure more competition, a greater number of visitors, and a progressing improvement in all coming fairs.

MARCELLUS ROSS, *Secretary.*

RANDOLPH COUNTY.

Although away down in "Egypt," Randolph county—"Old Randolph"—was one of the earliest in the state that organized and put in operation a County Agricultural Society. In 1851, at a social gathering, in the house of Mr. Bryce Crawford, Flat Prairie, the matter was talked over, and on the 9th of January, 1852, a constitution was prepared and adopted, the preamble to which says: "The subscribers agree to form themselves into a society, to be known as the Randolph County Agricultural Society, whose object shall be the improvement of agriculture, horticulture and the mechanical and household arts."

The Society originated in the northeastern corner of the county, where a large proportion of the settlers were from Scotland, who, in their adopted country, to some extent, have engrafted their national caution, perseverance and morality on the progressive, go-aheaditiveness of the Yankee character. The third article of the constitution says, that any man of *good moral character* may become a member, by subscribing his name to the constitution and paying the initiation fee.

The first officers of the Society were, Robert Brown, President; John Anderson, Vice-President; Jacob B. Beathe, Treasurer; and Wm. Addison, Secretary. The first annual fair of the Society was held on the farm of Mr. James Craig, Flat Prairie, Oct. 20, 1852. The second was held in the same place the following year, some account of which and of the Randolph County Agricultural Society may be found in the first volume of Transactions of the Illinois State Agricultural Society, pages 229 and 230.

The following year the annual fair was held on the farm of Wm. Robertson, Flat Prairie, Oct. 25th, 1854. Shortly afterwards an offer was made to the Society of a piece of land for five years, in Sparta, to be used as a fair ground, so that strangers and visitors from a distance could be accommodated; and the citizens of Sparta and the Sparta Mill Company subscribed liberally in raising funds to put up a substantial board fence and to erect fixtures for the accommodation of the fair. The exhibitions are every year increasing in interest and attraction, and the crowds attending are much the largest that on any occasion assemble in this county.

Since the fairs have been held in Sparta, they have continued two days. The last, on the 7th and 8th of last October, was the best and most numerously attended of any the Society has held. The numbers attending were estimated at from four to six thousand, and the conduct of the officers, the awards of the judges, and, in short, the fair generally, gave general satisfaction.

The number of entries at the last fair were: of horses, 94; cattle, 47; sheep, 4; hogs, 6; poultry, 2; mechanical, 23; fruit and vegetables and miscellaneous, 116; ladies' work, 111. The premiums were all paid in money, the amount being somewhat over

$300. The meeting, after the list of premiums were read, was addressed by Mr. J. B. Anderson, Vice-President, and by Mr. H. Crawford, also a member of the Society. The speeches were loudly applauded. That of the latter gentleman was somewhat humorous, highly poetical and partly in blank verse. The concluding paragraph might very appropriately conclude this report: "Let us, then, go on with our improvements, adding yearly to the attractiveness of our Society, and especially to the attractiveness of our exhibitions, and ere long, through the influence exerted by this Society, Randolph county shall be known and acknowledged as the Goshen of Egypt."

WM. ADDISON, *Secretary.*

ADDRESS, BY H. CRAWFORD,

AT THE FAIR OF THE RANDOLPH COUNTY AGRICULTURAL SOCIETY, OCTOBER 8, 1857.

Mr. President, Ladies and Gentlemen:

It is customary, even with men who are public speakers by profession, to make an apology before addressing an audience like the present. But, sir, as apologies are at all times unpalatable to the hearers, and very often uncalled for in the speaker, I will dispense with such a form at present, and proceed to make a few general observations, having a bearing on our present circumstances.

I congratulate you, Mr. President, and the people of Randolph county, generally, on the success which has attended our Agricultural Society, and especially our annual exhibitions. It is sometimes said, "little beginnings make great ends." This has surely been the case with our Society. Not many years ago a few farmers met together in a social capacity, first talked of the utility of having an Agricultural Society in our vicinity, and ere they parted laid their plans for its formation, and while they may feel thankful, they may also be allowed to feel proud that their nursling has so soon reached the years of maturity, and promises, at no distant period, to take its stand in the foremost ranks of its sister organizations.

Many societies are ephemeral in their existence. They are called into being on some sudden impulse of the public mind, perhaps as the result of some stern controversy, or it may be for the purpose of establishing some favorite dogma, but with the disappearance of these first attractions they soon cease to exist. With an Agricultural Society, however, it is vastly different. It is an association got up for the benefit of the wealth-producing classes, and consequently, for the benefit of every member of the community. It aims at no class legislation, but lays down a principle, broader than that of Bentham, namely: "The greatest possible good to every member of the human family." It stirs up an honest emulation in the breast—it holds out a bonus to the skillful craftsman and the enterprising farmer; and while it wages an unrelenting war against the barbarous usages and implements of a bygone day, it welcomes with open arms the reaper, the thresher, the seed

drill, the horse rake, and every other device which is calculated to benefit society. It may also be called, emphatically, the working man's association; for, while many societies require the presence of learned men in their execution, there is no office connected with an agricultural society which may not be efficiently filled by a working man. It is also a progressive institution, and a society properly formed to-day may be considered a "fixed fact" to-morrow. Indeed, Mr. President, it is an institution, which may be safely classed among those things "against which there is no law." Is it to be wondered at, then, that our Society is attractive—that we are greatly gaining in numbers, in means and in influence? And is it too much to expect that ere long the claims of our Society for support shall be acknowledged by every member of the community, and no one be found to stand aloof?

But, sir, perhaps the greatest attraction of an agricultural society is a fair ground. This may be called the true trysting place of friendship. Here, every eye beams with rapture, every heart is filled with joy. Here, the most beautiful of the domestic animals are exhibited.

> The noble horse, "his neck with thunder cloth'd,"
> Man's faithful friend, from early morn till eve;
> Without his aid, man's greatest effort to
> Support himself were frail indeed.
> The stately bull, with broad, expansive chest,
> That would have stood conspicuous 'mong the folks
> Of Og, and graced the landscape on the slopes
> Of Bashan. The timid cow, housewife's
> Trusty friend, wondering look, seems half
> Alarm'd, so many stand to praise. The works
> Of Art, here too, conspicuous shine.
> The massy wagon, for the farm, with strength
> And elegance combin'd. The carriages,
> Of varied form, like chariots of the sun,
> Which might have graced a Roman conqueror's
> Triumph. The plows, well fitted for the soil,
> With moldboard, share and bar of polish'd steel,
> Show vast improvement on the days gone by.
> And 'neath that canopy the household arts,
> In order grand, are seen. There woman rules
> Supreme. The most fastidious taste may
> Find enjoyment here. From winter's cozy
> Garb to summer's light attire, of many
> A form, and many a varied hue,
> The "odds and ends" of life attract the gaze.
> Come hither, ye who boast of single bliss,
> And learn to prize God's noblest temporal gift
> To helpless man. The roots and fruits of earth,
> In order rang'd, man's "daily bread," of size
> Enormous, fitted for display, of boasted
> Flavor and of beauteous hue. The dairy's
> Yellow store, in golden wreaths, to catch the eye,
> But more the palate please, awaits the judges'
> Scrutinizing skill. Who would not linger here
> And taste the sweets of Nature, and her handmaid
> Art? While woman's smile plays like a sunbeam,
> And enlivens all.

But, Mr. President, as has been aptly observed by one of our own number, the fair ground may be considered as the great advertising sheet of the county. There, the very best articles which the

county can afford are exhibited, and inspection earnestly solicited, and although quackery may be found in the advertising sheets of the present day, here there is hardly a possibility of being deceived, consulting only your own judgment. And I advise all those who have anything of a superior quality to dispose of, to bring it to the fair ground, and there, among the thousands who attend, they will be likely to find a customer.

The fair ground, sir, might also be turned to good account as a place for the diffusion of useful knowledge. There are no doubt many here to-day who have been successful, as well as many who have been unsuccessful, in the labors of the bypast year. Let, then, the man who has been successful—who has found out one plan better than another for the accomplishment of a particular end, communicate his experience to him who has been less fortunate, and let the unsuccessful man take instruction and direction wherever he can find it, and with a new year try a new plan. Great good may be derived from the perusal of books and other documents on agricultural and mechanical subjects, but I doubt not, sir, were the intelligence embodied in my present audience properly brought out and disseminated from man to man, it would, for ordinary purposes, have a better effect on the community than the prerusal of a whole volume of the literature of the present day. I am not opposed to reading, Mr. President. I practice it much, and I wish that the present generation, especially the younger members of it, would practice it more, but as far as agricultural treatises are concerned, there is far too much technicality used, and that seemingly in a pedantic manner. There is the sulphate of this and the sulphate of that, sal this and sal the other thing, with the endless il's, ic's and um's of a dead language, that while the common farmer puzzles himself beyond measure to put a name on these terms, he finds the treatise little better to him than a batch of unintelligible jargon. Now, sir, this must be remedied. Either the farmer must be educated so as to enable him not only to read, but understand these terms, or else (and which I think much better) things must just be called by their common names. Professional men may consider these languages quite indispensable, but on one point I know you will all agree with me, and that is, that a man may be a successful farmer or mechanic and a good citizen, though only in possession of his mother tongue, and a woman may be a good housewife and an amiable member of society, though no adept in Italian, and unable to call the chickens in French.

The difference, Mr. President, observable in the economy of farming in the vicinity of an agricultural society, and that pursued where no such institution exists, is very marked. In the one case you may find the farmer busily engaged, gathering together every particle of manure he can find, and having it carefully incorporated with the soil, thus laying a foundation for his own welfare and the welfare of coming generations, and in the other case you may find

the farmer puzzling his brain to find out a new site for his stable, thinking it better to remove the logs rather than clean out the manure, continuing from year to year, in an exhausting system of farming, taking all he can find from the soil and giving nothing in return, thus depriving himself of a competency and his children of their just rights. The difference is also observable in the domestic animals. Time was when our horses were of an inferior breed; when our cows were well denominated "scrubs;" when our hogs were almost walking augers, and showed fight as fiercely as a band of Tartars. But, sir, these things are fast disappearing, and wherever an agricultural society exists they must disappear. The ingenuity of man, at the present time, seems to be taxed to its utmost to find out something new for the accomplishment of man's greatest temporal good, and when once our land has become studded over with such institutions as this, that end will have been measurably attained.

Let us, then, go on with our improvements, adding yearly to the attractiveness of our Society and especially to the attractiveness of our exhibitions, and ere long, through the influence exerted by this Society, Randolph county shall be known and acknowledged as the Goshen of Egypt.

SANGAMON COUNTY.

The officers of the Sangamon County Agricultural and Mechanical Association for 1857 were—C. W. Vanderen, President; John C. Crowder and A. B. Cast, Vice-Presidents; Simeon Francis, Secretary; S. M. Parsons, Treasurer; John C. Crowder, C. W. Vanderen and John McConnel, Trustees of the Society's grounds.

The third annual fair under the present organization of the Society took place on the 15th, 16th, 17th and 18th days of September, 1857. The fair was a successful one. In some departments, (fruit, vegetables, the dairy, and agricultural implements,) the entries were not as many as was desired; but in the various departments of stock, there never was a better exhibition in Sangamon. The stocks of cattle from the herds of Jas. N. Brown, H. Jacoby, Pollock & Ritter, S. Dunlap, and others, made a splendid exhibition.

Of the premiums awarded for the best bulls, four years old and over, Pollock & Ritter took the first premium for *Mont Blanc*, and Curry & Forden the second premium for *Filibuster;* bulls three years old and under four, Pollock & Ritter, first premium, for *Belmont*, and S. Dunlap, second premium, for *S. A. Douglas;* bulls two years old and under three, Brown & Smith, first premium, for *Yeouder*, and Calef & Jacoby, second premium, for *Belleville Sutton;* bulls one year old and under two, J. N. Brown,

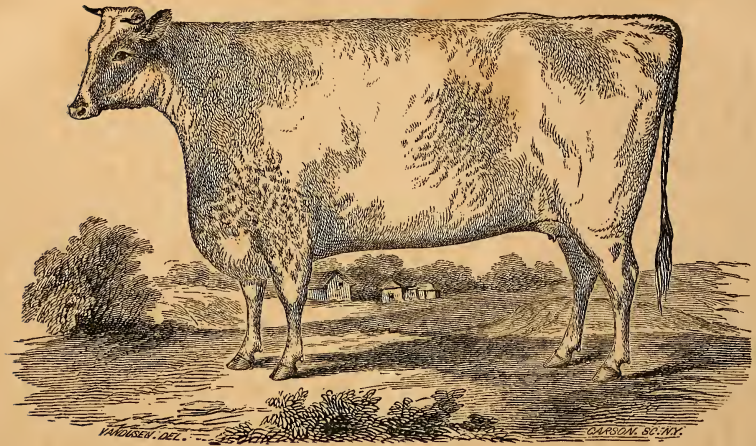
first premium, for *Young Whig*, and Washington Iles, second premium, for *Doubloon;* bull calf under one year, J. N. Brown, first premium, for *Young Buckeye*, and J. M. Hill, second premium, for *General Cass.*

For the best cows over four years old, J. N. Brown received the first premium for *Stella*, and the second for *Tulip;* for cows over three and under four years old, Calef & Jacoby, first premium, for *Lady Harriet*, and C. Stephenson, second premium, for heifer *Snow-Drop;* for heifers over two and under three years, Calef & Jacoby, first premium, for *Empress*, and J. N. Brown, second premium, for *Orphan;* best heifer over one and under two years, J. C. Bone, first premium, for *Emerald*, and J. M. Hill, second premium, for *Bracelet;* heifer calves under one year, Jas. N. Brown, first premium, for *Lady Frances*, and second premium for *May Dacre.* In the sweepstakes, for bulls, Brown & Smith carried off the first premium for *Yeouder*, and Ritter & Pollock the second premium for *Belmont;* cows, E. B. Hitt, first premium, for *Isabel*, and Calef & Jacoby, second premium, for *Lady Harriet.*

For thorough-bred horses over four years, Hoppin & McConnel, first premium, for *Pryor*, and Jesse Henry, second premium, for *Africa;* horses over three and under four, J. Stockdale, first premium, for *Barnton*, and J. L. Bridges, second premium, for *Young Nero;* over two and under three, Francis Scott, for *Nero;* aged mare, H. F. Fitch, first premium, for *Mary Ellen*, and Phill Warren, second premium, for *Nell;* over one and under two years, Thos. Scott, first premium, for *Dolly.*

Horses for all work, over four years old, L. P. & W. D. Sanger, first premium, for ———, and J. Stockdale, second premium, for *Morgan Champion;* over three and under four, Joel Ballard, first premium, for *Morgan Eclipse*, and A. C. Stafford, second premium, for *Tom Hall;* over two and under three years, Willis Simms, first premium, for *Kosciusko*, and C. M. Bridges, second premium, for *Young Tom Hall;* over one and under two years, W. P. Grimsley, first premium, for *Tom Hyer*, and Samuel Long, second premium, for colt. Best mare, four years old and over, L. P. & W. D. Sanger, first premium, for ———, and J. M. Hill, second premium, for *Till;* over three and under four years, Wm. Fitch, for *Fanny Leslie;* over two and under three years old, A. Weir, first premium, for *Lucy*, and J. Jacob, second premium, for *Tilley;* one year old and under two, J. B. Morrison, first premium, for *Archie*, and John M. Taylor, second premium, for *Lily Dale.* In the sweepstakes, *Young Barnton* took the first premium, and *Africa* the second; in mares, *Mary Ellen* took the first premium, and *Nell* the second.

There was a good exhibition of jacks and jennies, showing the increasing interest felt by our farmers in the raising of mules. There were many entries of French merino sheep, and a few of other choice breeds. The hogs entered were among the finest to be found anywhere—evidencing the increased attention paid to



EMPRESS.

Light roan. Imported by the Illinois Stock Importing Company, in 1857. Bred by Edward Bowley, Siddington House, Cirencester, England. Property of J. M. Hill, Walnut Hill, Cass county, Illinois. Calved April 20th, 1855; got by Tortworth Duke, (13,892) out of Flippant, by Bourton Hero (9983); LaPolka, by Monzani (6222); Jeanie Deans, by Prince (7615); by Fitzroy (3808); — by Morpeth (2339); — by Roman (2559); — by Admiral (5); — by Son of Blyth Comet (85); — by a bull of Mr. Foljamby's.

Empress was awarded a premium at the State fair and at Springfield, 1857; and at Cass county, 1858.

[Face page 158.

this branch of stock. This stock was owned by Messrs. J. C. Crowder, J. B. Fletcher, J. B. Morrison, L. P. & W. D. Sanger, S. N. Fullenwider, Dr. Wm. S. Wallace, J. Stockdale, Patrick Giblin, and others.

Of other articles entered, it will only need be said that they were numerous, and did great credit to their owners—eliciting the admiration of the numerous persons in attendance from every part of the county. The entries exceeded in number those of the previous year. The marked improvements were in stock—horses, cattle, jacks, mules, sheep and hogs.

The first three days of the fair were pleasant. On Friday, near noon, it commenced raining, and the proceedings were rapidly drawn to a close. The receipts the previous year, from entries and gate, were about $1,200. The receipts of the fair of 1857 were over $2,100—a most gratifying evidence of the success of this fair. Nearly $1,500 were distributed in premiums. The system of the previous year—requiring each exhibitor to purchase an exhibitor's ticket, for which one dollar was paid, admitting them to the fair grounds for the four days, and at the same time requiring gentlemen to pay one-fifth of the premium for which the animal or article was entered—was still adhered to. The fee at the gate was twenty-five cents for each person. This system has been found successful in preventing frauds, and at the same time making the institution a self supporting one, which is all that is expected or desired.

On the last day of the fair, Hon. M. L. Dunlap, of West Urbana, Champaign county, delivered an address on the grounds, which follows:

ADDRESS, BY M. L. DUNLAP,

BEFORE THE SANGAMON COUNTY AGRICULTURAL SOCIETY, 1857.

Ladies and Gentlemen of the Sangamon County Agricultural and Mechanical Association:

The wheels of ever busy time have again rolled this western world up to the sober hues of the autumn sun, and the rustling leaves that ardent summer has wove into the deepest shade of the green wood's quiet retreat, have just been kissed by the rejoicing breath, but not the frost of autumn.

The germ which the vernal showers opened to life and beauty and which the summer's sun has fructified, are now fast ripening for our use. The smaller grains have made obeisance to the sickle and are now being passed on change, but the great family of agricultural and horticultural products have not yet fell into the lap of plenty, and are now receiving the last finishing touch from the autumn sun, which has charge of the ripenings of the year. The spring poured out its blossoms in lavish profusion, compensating for the short comings of the previous year, while the summer's sun shed down its heat, tempered with showers and nights laden with dew. And now comes autumn with her tokens of plenty, cover-

ing them with her rich pencelings of artistic beauty, blushing from her pencil with melting lusciousness with which nature loves to fill up her gifts.

Soon the mellow tints of the Indian summer will enfold us in its mystic embrace, and the rustling leaves of brown October be falling at our feet, bidding us prepare for the winter king's approach. But for this we have an abundance, for the rich gifts so profusely strewn by the lavish hand of Ceres, and nurtured in the rich soil of the swelling prairie, now lay piled in vast pyramids, or glittering in the fields, shadowing forth their gold and crimson, to please the eye and make glad the heart of the husbandman.

Yonder tables laden with Pomona's richest gifts, assure us that the season has been fruitful in nature's choisest food; while the evidence is presented on every hand that our soil and climate are well adapted to the profitable growth of these valuable products, which exert so beneficial an influence on the general health and which so much delight the palate.

Would that I could persuade you to pay an increased attention to this department of rural economy, so as to bring these luxuries within the reach of all.

Flora! thou queen of beauty, thou who revelest in scenes of gorgeous splendor, thou hast found many admirers here, as yonder hall, dedicated to thy worship, most fully attests. Unnumbered offerings are laid upon thy shrine, redolant with perfume beyond the chemist's art, and rich pencilings that no brush can rival. We have reveled in thy gifts of gorgeous beauty since spring clothed the prairie in green and thy *avant-courier* of vernal flora gave promise of the fruit, as the flower gave place to the germ that the summer sun has grown, and which the autumn is now ripening into food. Thou hast performed thy round of duties and a few more rising suns will show thee cold and blackened in the embrace of the frost king, who will draw his chilling mantle around thy form of varied beauty. But some of thy choicest nurslings will survive, through the aid of the watchful gardner, who will protect them from the withering breath of the insidious foeman. We may also look for these emblems of love and affection in the hands of our fair friends, who will protect them alike from harm, and in whose fostering care they will shed many blessings on us during the reign of the frost king, to please the eye of the careworn sons of toil, and draw many a mirthful shout from happy childhood.

I hope that these, your annual holidays, dedicated to productive industry, have proved a happy and useful application of your time. You have, during the present year, been blessed with health and your granaries will soon overflow with the rich products of mother earth, who has been lavish in almost every department of your noble calling. You have abundant reason to be happy and to be filled with thankfulness to Him "who doeth all things well," and who "orders the seasons in their annual rounds."

Poets have sung with raptures and praise, writers have extolled the day when the happy tillers of the soil should no longer be considered as belonging to a lower class, but should rank with the other departments of useful labor. This day has now arrived, and you may stand forth with the emblems of your calling among the sons of men, without any taint of plebianism, and boldly assert your right to an equal share in the social machinery of the moral world.

In common with other departments of productive industry we need a little more schooling, to meet the wily politician both at the ballot box and in yonder Halls of Legislation; but this need not be extravagant—a general knowledge of the working of the wheels of government and the wants of the age will prove sufficient, and will enable you to see through his flimsy veil of imposture, and to lay bare his patriotic motives, which are mainly to plunder the public crib. Professed politicians should hold the same place in your esteem as do noxious weeds, which you are compelled to destroy, and they further hold a similarity to them, for both have to be plowed under yearly to insure success. In our noble State, at the ballot box, the voice of a free people has ever been in the ascendant, giving to labor its just reward and placing it high on the pedestal of honor.

You form the great substratum of society, and it is from your ranks, mainly, that the business men of the city are recruited. It is your broad shoulders and toil-hardened bodies that are required in the counting house, in the banking office, and when commerce with its white wings or steeds of iron, call for active, ceaseless toil you never reply in vain.

Wealth is at your command; the time has passed when a nod from Wall street has made you tremble, and the closing of the purse strings of capital given you deep pain. Now, when the former duns, you laugh, as you shake the yellow coin, and shut the latch of your granary on the exhibition of the latter. You are now one of the parties on change and must be consulted by the kings of trade, and a proper return made for the products of your toil. But I would not have you grow proud as you grow rich, nor ape the reckless extravagance of the cities. Your's is an independent position, and you should dare to do and act an independent part, to no more be the slaves to fashion than you are to commerce.

Wealth has now given you both the ability and time to cultivate a love for the beautiful, and some of your spare dollars should be used to embellish your homes, so as to draw the family circle into stronger bonds of affection, around which shall cluster your dearest sympathies. The love of home has been sadly neglected in our education; for why should we cluster our thoughts and affections around walls unshaded by a rich canopy of waving leaflets, or gardens bare of floral beauty? Why not one spot of unadorned earth as good as another? Let our hearts answer why. But when will our thoughts cease to dwell upon the plants that a

mother's care has cultivated, without feelings of deeper love and filial affection, and will we not attach more value to the trees our fathers planted and under whose grateful shade we grew up to manhood, than of those planted by stranger hands? We need no answer, for it is enshrined in the heart's deepest recesses; for on our way here we have noted its silent workings in the living monuments that surround your prairie homes.

You see that it is not my purpose to give you lessons of detail, in farming or horticultural display, but to roam with you over the broad field of fancy or of fact, with a farmer's license or a farmer's right.

Hand in hand we will pass through those beautiful grounds, admiring with you the products of your teeming soil—the mechanism of your handicraft, in labor-saving implements and conveniences of domestic life—the useful and ornamental articles of skill and labor from the hands of those who have a chosen place by your side shall not be neglected; to them we will pay the homage due.

Let us first pass through yonder park-like town, planted by nature and carpeted with living green. The bellowing of the buffalo has never stirred its echoes, nor the shaft of the red man broke the stillness of its branches. It is the nursling of your care, in protecting it from the annual prairie fire, to be a living monument, under whose grateful shade your children will, in after years, take pleasure in contending for the palm of victory, in the skillful culture of the soil, or excellence in the mechanic art. We have reached the limit of our domain, and here in comfortable stalls, arranged with the proper conveniences, stand as noble a herd of right royal bovines as are often met in the show grounds where civilization holds sway. Greater numbers may have been drawn together, but I fearlessly assert that, for form and beauty, they cannot be excelled. We would like to stop with you and admire the fine points of each, but our time will not permit. You will note with what a noble bearing *Mont Blanc* wears the blue ribbon as an evidence of his respectability and high standing. We must stop to notice this foreign lady, who wears the blue with such a modest, quiet air, she lately came from the Emerald Isle, where she was christened *Emerald*, after her *fader land*; she is but a little over a year old, but should she chance to stray out on the prairie and mix with the common herd, she might be reckoned as of maturer years. As she has a right royal line of ancestors she will yet reign a queen in the line of Durham succession.

See *Stella*, how quietly she is chewing the cud, unconscious of her honors, as the reigning queen in her class of matronly cows; she has great weight if not influence in her said circle, weighing nine-tenths of a ton and giving bright visions of tender steaks.

We must tear ourselves away, to take a last look at *Pryor* before we part. Nineteen winters have passed over his head, yet he carries himself with the sprightliness of youth. Combined with dignity and noble bearing, he stands the acknowledged king in the royal stud; long may he reign—his achievements on the turf has

placed him in the history of his native State, and an appreciating public will do him justice in his new home. We have a long walk to pass around the stalls of the horse family, among whom we note many, very many, superior animals, but we cannot stop to notice their individual good graces, but we can see that they are the pride of your farms and have had careful grooming in return for their valuable services. Numerous sheep and lambs are carefully cared for on the brow of yonder hill. They are but another evidence of the high value you place on fine animals as affording the best profit. The spinning wheel has lost its music in the household, giving new duties to our female friends, and they no longer twine the snowy fleece or ply the shuttle. This we almost regret, for our mothers never spun such silky wool as now grace the backs of the tenants of yonder fold. The swine grunt forth their approval of our commendations, as we pass, admiring their fine points and coloring, some of them black as night, might be taken for sable majesties of the herds of the sweltering sands of Africa, while others acknowledge a more Caucasian origin.

In the departments of cattle, horses, swine and sheep, you may safely challenge any county fair in this or any other State, and that you have the ability to excel in other departments of rural economy, I have no doubt. We will now enter Floral Hall and examine the works of art and use, and the products of the orchard and garden. It requires but a glance to see that the busy needles have done their work, furnishing articles of use and beauty. But Flora, alas! few offerings are laid on thy shrine and many of these are from distant climes, requiring the watchful care of the gardener to protect them from harm. We shall hope that another year will add to these attractions and that our fair friends will have a care for these symbols of love and beauty.

Pomona, thou who loves to shower down thy globe-like fruit, laughing with lusciousness of smiling plenty, filling our cellars with great orb-like apples, that fill up the measure of winter comforts, thou hast no grey headed worshippers at thy shrine, and but few offerings have been laid at thy feet. But thou canst sympathize with thy neighbors among the cereals and vegetables which, like thou, hast been neglected. Not that the teeming soil of this county does not revel in thy products, but it is thy present misfortune that many of thy warm friends are busy at this season in attending to thy home wants and making large preparations for the coming year, when you may hope to receive that attention that your valuable services demand. In a county so celebrated for its noble herds we might well expect to see pyramids of cream like cheese and golden butter, but probably the desire to furnish the stalls of far off cities with beef so celebrated as that of yours must be your excuse. Before we leave we must test the new sweet, among the list of saccharine fluids, the product of the sugar millet, which will hereafter take its place among your valuable products. There are numerous articles which we have passed by, of much

importance, both of domestic use and of ornament, but time admonishes us to admire and pass on to other themes appropriate to this festive occasion.

We have completed our hasty examinations; and to say that we are pleased is but a tame expression—a faint echo of our admiration of your progress, led on by the genius of the age.

But a few short years have been added to the calendar of time since the plow-share first entered your virgin soil—the grass, still crumpled with the moccasined foot of the red man, and the smoke of his wigwam just fading in the distance. You then stood on the far off frontier—the confines of the mighty west. Now the echo of yonder ponderous engine grows fainter as it trundles the human tide past your doors far toward the setting sun.

Nobly have you battled through all the difficulties and privations incident to the settlement of a new country; but the goal is won, and you now stand forth, not on the confines of civilization, but in the midst of a populous and prosperous State, with all the means and appliances of refined society. The star of empire is traveling westward, and you now see it beaming, in bright effulgence, in the zenith.

We shall long cherish the recollection of this day, as showin to us, in bright contrast, the value of free labor, directed by intelligence, over that of the predatory Indian, whose marks are yet fresh in yonder grove, and whose trail the bright plow-share is fast obliterating.

You have made wondrous progress in carving out noble homes, and in erecting new altars, redolent with mirth and domestic happiness, around which cluster bright eyes and smiling faces, which invite you to press forward in the onward progress of the age.

I have been with you to see the products of your soil, the specimens of your skill and labor; and I now invite you to go with me to examine the progress of the age—to look back into the misty past, and lay plans for the giant future. We will not be confined to any particular line of thought, or path of progress, but roam at will through the boundless space of fact or fancy, and cull such gems as may happen to please us, in our wayward wanderings.

Before we start on our proposed tour of observation, allow me to have a short chat with those girls and boys, whose pattering feet and happy smiles have added to the pleasure of this festive occasion.

You appear before me, a happy group of smiling, cheerful faces, rife with intelligence, alike indicative of deep thought and frolicsome mirth. Allow me to inquire, for what purpose are you gathered here in this sylvan retreat, so late the abode of the red man? Have you come to worship at the shrine of nature, or of art—to send up your adorations to the great "Manitou"—to look through Nature up to Nature's God? Or have you come for the purpose of wild and frolicsome mirth—to run riot with fun—to

wake the echoes of yonder deep-toned forest, or the gently rolling prairie, with the clear notes of happy, thrice happy childhood? Will you have thought for the mighty past? Will you send memory back to the deep recesses of by-gone years? Will you invoke the genii of this umbrageous oak to give up the history of its years? Or will your young minds question back of time, when, in wild, playful mood, the children of the forest last awoke the echoes where now you meet to show the products of the prairie over whose rich soil they chased the spotted fawn, unconscious of its hidden power to provide them food?

Will you find time, amid the festivity of this occasion, to contrast your happy lot with the deep feeling of woe that must have wrung the hearts of those simple children of the forest and prairie, in bidding a last sad farewell to yonder groves, their ancient home, and which was endeared to them by olden legend, and whose scenic beauty and fertility of soil is almost unsurpassed?

Will you give your sympathies to the memory of those unfortunate children, who have given up their place to you, as they took up their line of march, with the last dusky warrior who wended his weary way from amid this beautiful retreat, now dedicated to the purpose of displaying to the world the products of the skill and energy of the white man? View them in fancy, as in silence their footsteps turned toward the setting sun, followed by their faithful mothers and trustful dogs; the pattering of little feet, as they pressed the prairie flower and sped on in silence, awaking only the deep tones of misery in their downcast hearts, and bidding the scalding tears chase each other in quick succession down their sun-browned cheeks; for they must rear their wigwam in a far-off land. Shall we pursue this subject? Shall we let fancy wanton over the history of the past? No! we will draw the veil of midnight darkness between this and the olden time; nor will I permit the genii of the grove, or the spirit of some old Indian brave, to lay in wait for you. You shall not fear in your rambles to-day, to meet an uplifted tomahawk, or the unerring shaft from any unseen bow, wielded by the hand of the spirit of the dead. You shall wanton amid these gems of art, of use and beauty, in all the exuberance of happy childhood, that the pleasures of this occasion may be remembered as a happy era of your adolescence, when the mist of age shall have dimmed your vision, and your speaker shall have passed through the portals of the unseen world.

We will no more raise the veil of the past; we will shut our eyes from the vision of the spirit world, and from its dim outlines of shadowy truth, turn our attention to the active usefulness of the future.

When we look around us, and view the rapid progress made by the hand of man—his achievements on these broad prairies, which lay smiling beneath the mellow hues of the autumn sun—we are led to feel proud, and almost disposed to worship our frail human-

ity; but this waywardness is soon checked, and we raise our adorations to Him whose hand has smoothed them out with its plastic palm, and chiseled the water courses like vast dead furrows in nature's fallow field.

To look upon the broad prairies, teeming with herds and ripened harvests, is a sight not only rich to the eye, but has a rich prospective to the cultivator, and gladdens the sun-browned brow of labor. Poets have sung heroic strains in its favor, and prose writers have been lavish in its praise, until fancy has given place to fact, and realized the fabulous wonders of eastern fancy. The story of Aladdin's lamp is no longer a fiction, but only changed to the glittering mold-board of our steel clippers, which turn up the hidden elements of nutrition, which create, as if by magic, the golden grain that gives to the mighty West its elements of power and of progress.

All this sounds harmonious, when set to music, and wakes the dormant energies of our nature, when spoke in well-turned prose. But before the golden harvest can glitter in the morning sun—before it can wave in gentle undulations beneath the laughing zephyrs that come to kiss its leaflets, which stir them into life and beauty—labor must wipe the sweat from its sun-browned brow, and the reeking team must have performed many a ten-hour bout.

Let us turn our attention for a moment to the progress of agricultural improvement, which is but another index of the advancement of the age, and the higher development of our humanity. We will look down no long scroll of years, nor will we search the history of Greece or Rome for a starting point, but will content ourselves with drawing from memory—from our youthful recollections of them, and the wonderful changes wrought to the present time.

I am, as you may see, yet in the full vigor of manhood; gray hairs have scarce invaded my brow—but just commencing the last half of the allotted seventy—no long period on the check-roll of time—and yet I well remember, as doubtless many of you do, when the hand sickle was the principal instrument by which the smaller grains were harvested. The cradle was then beginning to claim attention, and was not long in superseding the toilsome and tardy operation of the sickle, and which has now given place to the reaper, drawn by the noble horse or laborious mule, cutting from ten to twenty acres per day. If you do not call this progress, allow me to ask you to figure up by what other process you could secure the vast harvests that wave their golden undulations on your wide-spread prairies.

A hundred acres of wheat would require thirty men, sickle in hand, ten days to cut it down. Now, one man and a span of horses, with an implement that the genius of a Manny, an Atkins, a Danford or a Rugg has furnished, will do the same work in less time.

It was for our noble State, for the purpose of developing its

almost boundless resources of cereal products, that genius came to our aid and devised the reaper, which has given a new era to the great valley of the giant West, and by which another wrinkle was taken from the brow of care, and the over-tasked laborer permitted a repose.

The idea conceived on the hills of Scotia by the patriot Bell, required the broad fields of the West to give it life and being. And when monuments of richest marble, erected to commemorate deeds of martial valor, shall have crumbled into dust, the names of Hussy, McCormick, Manny, Danford, Atkins, Rugg, and a host of others who have aided in this great improvement, shall stand proudly forth on the historic page.

Of scarce less importance has been the progress of improvement in machines for threshing and cleaning the whole family of grains and seeds.

The hand flail, that instrument of torture so graphically described by Burns as "the weary flinging tree," is no more. We only hear its measured beat in memory, and stop to dream of boyhood's days, when we helped to swing them, and to beat out by single blows the rattling grain. The cumbrous hand fan, which wells up from the memory of by-gone years, has slid from our grasp; but the vivid impressions of hardened and weary toil with which it was identified still remain. It has left no pleasurable emotions, and I exchange it without a regret for such useful fanning mills as you now exhibit.

The scythe, with its keen edge and elastic form, fashioned by the ponderous hammer, was a vast stride in the field of progress, when compared with the old broad, uncouth blade of unhardened steel, whose edge was reduced to sharpness by repeated blows of the *tiny* hammer—hundreds of which we have seen in use on our prairies, as they slowly, and with almost superhuman effort, laid low the luxuriant prairie grass. And yet, how far is this outstripped in the line of progress by yonder mowing machines!

Those huge iron prongs, denominated a pitch-fork, have either been forged into harrow teeth, or placed in a museum by some aspiring Barnum, as specimens of by-gone years; and the bright, elastic implement which you now exhibit, bears but little resemblance to its iron namesake.

The plow, within the last thirty years, has passed through many and important changes, some of which are due to citizens of your county, now within my hearing. My first acquaintance was with the wooden mold-board, guided by a single handle, the work of which bore no small resemblance to that performed by one of those bow-backed, long-nosed hogs, that you sometimes see prowling about your fields. The renowned Wood, whose name should be ever held in grateful remembrance, gave us the first successful cast-iron plow, with its more graceful form, and which, for gravelly and silicious soils, is yet unsurpassed. But the rich, friable loam of the swelling prairie required a richer gift from the hand of

genius, and she gave the steel clipper, with burnished mold-board, now so well known wherever the teeming harvests rustle on the wide savannahs of the West. Without the steel plow, the vast fields of grain that now cover the prairies could not have been sown, and the iron horse would have lighter tasks to perform. Nor would the white-winged coursers that plow our lakes be either so large or so numerous as we see them. The names of those who have participated in these valuable achievements are so numerous that we are compelled to pass them over.

Wagons, harrows, cultivators, and the whole catalogue of farm implements, have alike been the subject of progress; but to enumerate them would weary your patience, and I will therefore refer you to the specimens themselves now on exhibition.

Such is the progress of improvement designed by the hand of genius, and which has so closely cemented the interest and mutual regard of the farmer and mechanic, as to have given birth to this association, which has proved its beneficent effects upon its founders, and all others who have come within the pale of its influence.

Horticulture has, also, within the past few years, made rapid strides in the field of progress, not only in quantity, but in the improved quality of its productions. The seedling apple is giving place to improved varieties by grafting; and now, instead of orchards of chance seedlings, producing but a few tolerable fruits, we have those of the best quality at all seasons of the year.

The seedling peach has also given place to the choice grafts, which are so much improved as to extend the season of this delicious fruit, one of the choicest of Pomona's gifts. The pear, from an austere and almost worthless fruit, by improved culture, selection of varieties, and, what is of great value, the manner of ripening, has taken a high rank, possessing a melting richness almost unsurpassed by the rich gifts of the sunny South.

The same progress has been made in the smaller fruits, as well as in the vegetable garden, thereby adding to our list of creature comforts, and consequently giving us higher enjoyment in this evanescent life.

These are but a few items in the long catalogue of improvements made in these departments of rural economy within the past few years, the first inception of which many of you are familiar with. You will not have forgotten with what joy most of these improvements were received at their first announcement and successful trial, and the rich rewards that have been showered on many of those who placed them before an appreciating people.

Not all the candidates for public favor have been successful; not all those who were ambitious to place their names high on the banner of fame have achieved their desires; and many a half finished labor-saving machine has been abandoned, when, if the genius that gave it birth had been allied to wealth, or endowed with an untiring perseverance, they might have succeeded; while now we see many of these crude efforts thrown aside, in the yards and

highways, crumbling mementos of unfortunate genius. When we examine the long array of noble names who have done so much to foster and ennoble these pursuits, we find many of them of the highest attainment among our fellow-citizens of this State; and it gives us pleasure to know that they are reaping a rich reward for their invaluable researches in the arena of mechanism.

In the great industrial contests in London, New York and Paris, where the congregated world of mechanism were their competitors, they carried off a goodly number of prizes—compelling the boasted artisans of Europe to acknowledge their superior ingenuity and workmanship.

We have thus taken a cursory glance over the general field of advancement, but we have not as yet attempted to solve the hidden mystery, or to dive into the solution of the problem, whereby we may lay open to the public gaze the secret of success, and show out, in mid-day splendor, the motive power that has, within so short a time, accomplished such wonderful results.

To the district school we must pay our humble adorations. It is to that utilitarian source we owe most of our success, and which has given to toiling genius the power to unfold the hidden mystery that lazy capital could not grasp. It is to these young seminaries where undeveloped thought first found vent in conning over the mystic symbols of the alphabet, and which has given to adolescent boyhood the first impressions that ere long he must rely upon his own resources, both of mind and body; that he will soon enter the field of active manhood, to battle in the selfish ranks of this jostling world for fame, for fortune or for bread; that his own right hand must carve out his fortune or write his name in the history of his country. It is these schools of elementary thought that have rubbed the rust from dormant genius and given to the new world that element of power and of progress that crumbling dynasties have sought for in vain. Here self-government in its most practical bearing has been taught, and it is here that the fiction has been exploded that "majorities shall rule," and here that adamantine truth has been established that mind not matter shall weigh in the scale of human power and development, and that brute force is controlled by this magic power of knowledge. Our noblest minds are graduates of these humble institutions, far outstripping most others in the race of usefulness, though they have drawn their knowledge from higher though less utilitarian sources. The district school is the richest gift of our republican government, and the true philosopher's stone, by which the mind of the masses are turned into gold and inlaid with the rich mosaic of fraternal feeling and love of the beautiful that gives us those surroundings of home and power to grasp the real pleasures of life by which we attain the end of our being. We feel proud of our adopted state in following in the footsteps of her illustrious elder sisters in this respect, in giving to her district schools such a proud

position as they have now attained. Our common school law, though bungling and unweildly in many respects, is the brightest gem in our chaplet of legislative enactments, for it contains that star of hope, "free education to all." Let it ever shine as the beacon star, giving hope to the down-trodden and the means of improvement and Americanizing of the oppressed who may seek an asylum on our fertile plains.

Schools make readers, and readers must have food for thought. They seek after the useful, and hoard together whatever may be of value in the every-day walks of life. Books are, therefore, their monitors, and to their teachings they bow as to some unseen power. It is, therefore, of much importance that those only are selected whose pages are stored with truth. Let us go further and ask, what are books? They contain the fancies, opinions, theories and experiences of men, as well as a history of mind and matter. They are our teachers, and assist us to read the great book of nature, whose lids are the ambient ether. Man, himself, is a partially written book, whose pages are fast filling up with good and evil, and whose volume will be enrolled in the eventful future. Books, therefore, contain with more accuracy the lore of past ages of thought and of action, from which we may cull at leisure much that is useful

As new conditions of things arise, and as new requirements are before us, we must conform ourselves to their claims, and prepare to meet them in all their varied expositions of usefulness.

It should not, therefore, be deemed singular that the history of agricultural progress should be written, nor that the more recent improvements in the mechanical department of this great industrial necessity should long be kept from the world. If such is the fact, it would not be derogatory to our intelligence to carefully peruse them, and to follow their useful teachings, without fear of being called book farmers, as a term of reproach. The divine has books, so has the lawyer, the seaman, the merchant and all the other useful callings; then why not, with the same propriety, cannot the farmer store his shelves with the useful experience of others?

It may be asked, of what use is all this array of vaunted improvement and progress of the age? Labor is more and more in demand, and all are as busy as in the days of our grandfathers, and that too without any immediate prospect of a change. Progress is a talismanic word, whose course is ever onward, having excelsior for its motto, with an eye for the beautiful and a desire for rational enjoyment. It builds our railroads, our steamers and other appliances of a high civilization, by the means of which we realize more enjoyment in a year than we could a few years since in a much longer space of time.

A wise Providence ordained that we should labor, and that we should earn our bread by the sweat of our brow; and when we disregard this provision, there comes lassitude and apathy for the

enjoyment of the gifts of Providence, and we pay the penalty for our presumption. If we only labored to sustain the animal man, a small portion only of our time would be required for that purpose, but the Ruler of the Universe has endowed us with higher aspirations, and implanted in our nature a love of the beautiful, and to gratify this heaven-born impulse, we must labor after the more simple wants of our corporeal system is satisfied. It is the love of the beautiful that brings us nearer the Divine perfection, and which enables us "to look through nature up to nature's God."

The beauty of the floral kingdom was not simply made to propagate the various species of plants, for this is done by the stigma and pistol. The petals, with their elaborate colorings and graceful forms, are there to please the eye and minister to our higher taste; otherwise their perfect pencilings would be of no value, and their perfumes "wasted on the desert air."

No painter has yet been able to produce such perfect work; no pencil so firm as to draw such millions of varied hues, as those we find imprinted by nature on her floricultural developments. Deity made the flowers as much for himself as for men, otherwise they would only bud and blossom in our pathway and among our daily walks; but this is not so, for there is no retreat so secret, no valley so deeply hidden, no sierra so inaccessible, no wide sahara so desolate, that these symbols of love and purity are not planted there. Amid the leafy solitudes, when naught but the song of birds and the deep pulsations of nature are heard, they bud and blossom and flaunt their beauties as proudly and in as great perfection as if the lordlings of this world, instead of the Lord of nature, was smiling on their perfect symmetry and elegance of mien.

It was not for man alone that the prairies were made—our wide parterre of floral beauty. If it had been so, why do they flee from his approach and dwindle into insignificance as he spreads his dominion over them? But rather is it not that He who holds them in His hand designed them, also, for His own use, that He, too, might feast His eyes on these emblems of His love and watchful care? He made Nature his gardener and the world one wide, extended garden of varied beauty; but when He works for men, it is on condition that He is paid in sweat from the sun-browned brow of labor. Man, therefore, if he wishes to enjoy these nurslings of nature's bounty, must plant, protect and cultivate them with assiduous care, or he is condemned to forego the pleasures they bestow.

We are permitted, by such progress in the art of culture, to enjoy the floral beauties of far off climes. We mingle them with our own, thereby adding new attractions and stronger bonds of union to our homes in our extended acquaintance with those silent monitors, that teach us love and good will to all. In this respect we are most fortunate, and have abundant reason to be thankful for the varied bounties which we enjoy.

Let us, then, avail ourselves of this happy position, so as to reap its fullest fruition. With a climate and soil unsurpassed; with nature's choicest gifts around us in lavish profusion, we shall prove recreant to the high trust reposed in us if we neglect to cultivate a taste for the beautiful, and to surround our homes with these varied gifts of love and affection.

Man's grosser appetite is his taste for food, but his higher perception is the taste of the eye. If this was not so, why is the grain clothed in such symmetrical foilage, and why make its obesiance to the laughing zephyrs that kiss its leaflets?

First comes beauty, before the plant produced food, and it first feasts the eye before the crude elements of nutrition are elaborated by the summer's sun to minister to the wants of the corporeal man.

The apple tree is sheeted with a canopy of gorgeous hue before the germ gives promise of fruit, and the fruit itself is covered with pencilings outvieing the painter's brush, before its saccharine fluids and rich aroma can please the taste.

Does it not follow that the food of the eye is as essential to our full development as the food of the body, and should we not bestow upon it the same attention in the supply of essential elements of progress as we do to the outer man.

CONCLUSION.

No long drawn arguments are required to convince us that the goal of perfection is yet reached, in any department of husbandry, but on the contrary we have just commenced climbing the first rounds of the ambitious ladder of improvement, and are here to-day to examine how far up we have reached—to note and compare our new acquisitions, and to rub the dust that has accumulated from the old. We are now to cast up the ledger to count the gains of the past, and to prepare to make new entries of success that shall give us another happy meeting when the russet hues of autumn shall again mark another figure on the roll of time.

We have a task before us, but it is one of pleasure. The forms of beauty and of use are around us, while sweet-tempered plenty showers down her blessings to drive want from the door.

Deeper furrows give us larger gains, and the treasures that lie hid in solid wealth, are not fully reached. Here and there the lid has been knocked from the coffer, and a few scattering coins have been gathered; but its countless wealth lies in the marly clay that forms its matrix. In the grain fields you may reach it with the truck or subsoil plow, while in your yards and gardens this wealth of ore is only reached by the spade, by which its subtle deposits are soon prepared to shower forth an avalanche of beauty, which you may fashion into use at your leisure.

The prairies are mapped out in magnificent beauty, and it is now for you to fit them up for the abodes of your happy families. If you do not make them bud and blossom amid sylvan retreats,

around which your household will love to cluster, you will be unworthy your Saxon origin, and should be compelled to do penance in the bound regions of the further north.

STEPHENSON COUNTY.

Officers for 1857:

President—Jas. S. Taggart.
Vice-Presidents—J. C. Allen, Samuel Turner, Joseph Pennel.
Secretary—Wm. C. Gray.
Treasurer—E. Ordway.
Corresponding Secretary—Jas. Stansberry.

We have no report of the Fair of Stephenson county, for 1857. The following is the statement of the Treasurer of the County Agricultural Society, for that year:

Balance in the treasury last year		$139 22
Received of State Treasurer		100 00
Received of D. H. Sunderland, Secretary		1,151 54
		$1,390 76
Paid out for premiums, 1856	$112 25	
for rent of fair grounds, 1856	10 00	
for lumber and posts	164 20	
for painting	47 50	
for premiums, 1857	565 25	
all other expenses for the year	161 44	
		1,087 64
Leaving a balance in the treasury of		$303 12

December 26, 1857. E. ORDWAY, *Treasurer.*

TAZEWELL COUNTY.

The Tazewell County Fair took place immediately preceding the Peoria Fair. The attendance and entries were undoubtedly affected by the anticipated State Fair. The County Fair, however, went off very pleasantly, and we think ourselves in better condition than ever before for carrying out the designs of the Society.

LLOYD SHAW, *Vice-President.*

UNION COUNTY.

Officers for 1857:

President—John C. Hunsacker.
Vice-Presidents—Benj. Vancil, Moses Goodman.
Treasurer—C. H. Flaugh.
Recording Secretary—L. H. Ferguson.
Corresponding Secretary—S. S. Condon.

The Union County Agricultural and Mechanical Society was formed in the year 1856, and held its first annual fair at Jonesboro, on the 24th and 25th days of September, of that year. The grounds selected for the exhibition were most beautifully ornamented with forest trees and well supplied with an abundance of pure water, from a spring immediately at the grounds. The grounds were inclosed by a good board fence, well supplied with sheds, tables, stalls, &c., &c., and tastefully arranged, throughout, with reference both to comfort and display. The exhibition was creditable to any section of country, but considering that it was "way down in Egypt," and the first formed "hereabout," it was decidedly a triumph for the friends of agriculture. It was attended by at least four thousand persons, all of whom seemed highly pleased. A full description of the last year's proceedings has already been furnished for the "Transactions." I will just remark, that the Society has gone on prosperously since its formation. Its second annual fair, held at the fair grounds, in Jonesboro, was also well attended, not only by our own farmers and citizens, but numbers from the surrounding counties were in attendance, and were active (and often successful) competitors for the premiums offered.

The exhibition was meagre in the extreme, this year, as far as relates to cattle, sheep and hogs—respectable, so far as horses were concerned; but never was a finer, a grander or more lavish display of agricultural products offered to the inspection of the public than were seen at our last annual exhibition. The attendance was large and orderly, and from a convenient platform, erected under the friendly shade of a large *liriodendron tulipifera*, in the centre of the grounds, our townsman, Col. Dougherty, on the first day, discoursed most eloquently on the advantages and value of skillful and scientific husbandry; whilst on the second day the vast audience were entertained by the eloquent Mr. Crawford, of Benton, and our young but learned friend, Wesley Davidson, of our own county. During the intervals of the speaking, throughout both days, the Jonesboro Saxe-horn Band, fourteen in number, and all in uniform, enlivened the scene and vast crowd with their spirit-stirring strains; but perhaps the best feature of the fair was the "temple of art," which was filled to overflowing with handsome and well executed oil paintings, water-colored sketches, crayons,

monochroms, Grecian paintings and artificial and natural flowers, the productions of our own gifted native artists.

After the premiums were awarded, on the second day, the citizens and strangers left the grounds, highly pleased, many of them determined, in their own minds, to lend their aid, at the next fair, in good earnest.

S. S. CONDON, *Rec. Sec'y.*

VERMILION COUNTY.

The Vermilion county Agricultural Society was organized May 11th, 1852. Its first annual fair was held at Danville, October 13th; there was but little stock on exhibition, and but few people in attendance. There were eighteen entries of horses, six of jacks and mules, fifteen of cattle, and forty entries of miscellaneous articles. Total number of entries, seventy-nine. Total amount of premiums paid $42 85.

The Society met May 26, 1853, and elected officers for the ensuing year. The executive committee met June 25th, and appointed judges for the ensuing fair.

There being no record kept of the proceedings of the Society from the 26th of May, 1853, until June 7th, 1856, it will be impossible for me to give an account of the receipts and expenditures or number of entries.

The second annual fair was held at Danville, October, 1853. There was, perhaps, double the amount of stock, etc., on exhibition that there was at the first fair and of a superior quality.

The third annual fair was held at Catlin, October, 1854. There was quite an improvement in quantity and quality of stock, etc.

The fourth annual fair was held at Catlin, October 15th and 16th, 1855. The quantity of stock and miscellaneous articles on exhibition was much larger than at any previous fair. Some very superior thorough bred horses and cattle, and fine wooled sheep were on exhibition at this fair.

According to a call of members of the Vermilion county Agricultural Society, a meeting was holden in Danville, on Saturday, September 13th, 1856, for the purpose of taking necessary steps to become incorporated according to an act of the legislature.

A constitution and by-laws were adopted, and the following officers elected: John Garrard, President; John Allen, Vice-President; Jacob H. Oakwood, Secretary; Josiah Sandusky, Treasurer; John Busby, A. M. C. Hawes, Alex. Church, Martin Moudy, Thos. McKibbon, Directors.

Eight acres of ground was subsequently leased at Catlin, for the term of fifteen years; and inclosed with a substantial board fence, at a cost of eight hundred dollars.

The fifth annual fair was held at Catlin, on the 15th, 16th and 17th days of October, 1856.

Number of horses on exhibition	125
" cattle "	100
" other articles "	125
Total number of entries	350
Amount of premiums paid	$352 50
Number of diplomas awarded	22

The annual meeting of the Society was held at Catlin, June 6, 1857, and the following officers were elected, viz: John Garrard, President; Thos. McKibbon, Vice President; Jacob H. Oakwood, Secretary; John A. Church, Treasurer; Martin Moudy, Josiah Smith, Francis Gains, H. H. Catlett, C. L. Pate, Directors; D. B. Stockton, Marshal.

The sixth annual fair was held on the fair grounds at Catlin, October 7th, 8th and 9th, 1857. This fair was far superior to any ever held in the county, and perhaps excelled but by few in the State. The exhibition of thorough bred horses was very fine——there being ten stallions of this class entered; and it was the unanimous opinion of those who had visited the State Fair at Peoria, that they were equal to those exhibited there. The thorough bred cattle were also very fine and quite considerable in numbers, much inferior, however, to those exhibited at the State Fair. The show of hogs and sheep was very fine, also of wagons, carriages, buggies, plows, harrows, corn crushers, corn shellers, pumps, etc., etc.. In fact, every department seemed to be fully represented.

Total receipts of this fair	$920
Amount paid for premiums	810
Number of horses entered	185
" cattle "	90
" sheep "	17
" hogs "	13
" other articles entered	296
Total number of entries	601

The experience of the past has taught us that three days are not sufficient time to transact all the business of our fairs as it should be done, and we have determined to continue our fairs at least four days. The Society intends erecting convenient buildings on the fair grounds, and stalls, etc., for the accommodation of stock and other property. Our Society is now in a healthy and prosperous condition, and its recent fair has won the applause of all, even of those who sneered at its feeble efforts in the beginning. All seem determined to excel and to make Vermilion county fair one of the best in the State.

Sorghum—There has been many experiments tried, the present season, with the Chinese Sugar Cane, all of which have been emi-

nently successful, and prove beyond a doubt that this plant can be grown as easily as Indian corn, and indeed it seems to be of more luxuriant growth. The syrup made from the Sorghum is fully equal, if not superior, to southern cane syrup, and yields about one hundred and fifty gallons per acre—five gallons of juice being sufficient to make one gallon of syrup,

JACOB H. OAKWOOD, *Secretary.*

WINNEBAGO COUNTY.

Officers for 1857:

President—Hampton P. Sloan.
Vice President—A. J. Enoch.
Secretary—Newton Crawford.
Treasurer—Hiram R. Enoch.
Directors—Samuel Cunningham, Wm. C. Grant, Richard Jackson, Ephraim Summer, Joel S. Sherman.

The Agricultural Society of this county held its fourth annual fair on the 13th, 14th and 15th days of October, 1857, on grounds recently bought by the Society, and within the limits of the city of Rockford. The entries of horses were uncommonly large and many very fine. Number of entries 178. Of jacks and mules we have comparatively few in the county, but some very fine specimens. Number of entries 7. The cattle department was not as well filled as it ought to have been; but the specimens shown were of the finest kind. Entries—Durhams, 26; Devons, 10; Hereford, 1; natives and crosses, 26; work oxen, 9 pairs; fat cattle, 3. In sheep, the representation was small, compared with the numbers in the county—only 16 entries, composed of Southdown, French and Spanish. In swine, the county is decidedly less hoggish than formerly—only 5 entries, mostly Suffolk. Of poultry, the show was small, consisting of three varieties of Shanghais, Dorkings, etc., 8 entries.

In farm implements, the show was large for a county fair, comprising almost all the implements wanted by the farmer, from a reaper to a hoe. There were 57 entries for premiums and nearly as many more on exhibition.

The show in grain and vegetables was also good—97 entries made. Specimens of oats shown that on 15 acres 23 rods was produced 1,505 22-32 bushels, and weighing 43¼ lbs. to the bushel by measure.

The dairy was very well represented by 22 entries of the very best packages of butter and cheese.

Some very fine specimens of syrup from the Chinese Sugar Cane were exhibited.

The fruit department was well filled, showing that time is supporting and maturing the efforts of orchardists in this very valuable division of agriculture. The entries embraced a great variety of apples, pears, grapes and plums, but the peaches were not present —21 entries.

The ladies' department, occupied by fancy needlework and embroidery, was well filled, and as ever showed their readiness to make a county fair a pleasant, agreeable and desirable place.

The receipts of the fair, including membership fees, was over $2,500. The cash premiums awarded, $376 75, besides books and diplomas.

NEWTON CRAWFORD, *Secretary.*

REPORTS OF COUNTY SOCIETIES FOR 1858.

ADAMS COUNTY.

Officers for 1859:

President—Samuel Jameson.

Vice-Presidents—Joseph Turner, Elliot Combs, Edmund Higbee.

Managing Committee—M. T. Greenleaf, H. S. Osborn, J. W. Barnum, Edmund Wheeler, J. C. Bernard.

Recording and Corresponding Secretary—H. D. Woodruff.

Treasurer—Charles A. Savage.

Town Committees—Beverly—Seth Grammar, Wm. Cutter.
Burton—S. S. Macham, Wm. Richards.
Camp Point—P. P. Garrett, Thomas Bailey.
Clayton—S. J. Morer, Wm. Montgomery.
Columbus—Asbury Elliott, George Johnson.
Concord—Edward Sharpe, J. W. Anderson.
Ellington—K. K. Jones, Samuel Turner.
Fall Creek—Thomas Crocker, Eli Seehorn.
Gilmer—Paris F. Judy, William Geargan.
Honey Creek—Edward Simms, John Leggett.
Houston—David Strickler, Horace Reynolds.
Keene—Baptist Hardy, G. D. Riddle.
Liberty—P. B. Grover, Wm. Meacham.
Lima—John A. Gallamore, Thomas Killam.
McKee—Geo. Cutforth, R. P. Smith.
Melrose—J. V. Hanks, Nathaniel Pease.
Mendon—John Chittenden, Eli Banks.
North-East—William Ketchum, William Burke.
Payson—I. H. Miller, L. Faxon.
Quincy—A. Buddee, R. Sartle.
Richfield—David Lock, Jesse Evans.
Ursa—William Leachman, James Nichols.

The fifth annual fair of the Adams County Agricultural and Mechanical Association took place on Wednesday, Thursday and

Friday, September 29th, 30th and October 1st, 1858, on their fair grounds. The display of Horses was in number less than last year, while a very decided improvement, particularly in young stock, was manifest. Among the finest were the celebrated and splendid stallions, *Silver Heels* and *Black Hawk*, both progeny of the world-wide famed old *Black Hawk*, and both showing points of great excellence. Probably no county in the State can produce two finer stock horses than these, and their value and worth to the farmers is already appreciated and acknowledged. It is sure that, in a few years, no county in the State can turn out more fine horses than old Adams.

In Cattle, the show was small, but all the animals were very superior. Some superb Devon stock, owned by Mr. H. P. Coe, as well as a number of splendid Durhams, made up, in a great measure, by their superior merits, for a want of numbers. One superb Durham cow, from Brown county, was on exhibition, and elicited the admiration of all, and was, probably, the finest animal of the kind ever shown in this section. The owner received from the committee high commendation and a special premium of a silver medal.

In Sheep, the display was small but good. A special premium was awarded to E. Combs for some splendid Cotswolds.

The show of Swine was small but good. Our farmers did not do justice to themselves in this department, as our county has long been noted for fine hogs.

There were fifteen coops of poultry on exhibition, including all sorts of fancy fowls.

The display of Agricultural Implements was large and splendid. A great improvement in this department was shown over any other fair. The large building devoted to this class was crowded with long rows of splendid plows, cultivators, and other useful machines; while outside a large space was taken up with wheat drills, corn planters, reapers, cutting machines, etc., in profusion. The Quincy Agricultural Works made a splendid display of their celebrated plows of all kinds, Pennock's wheat drills, Brown's corn planter, etc., of their own manufacture; while from abroad there were fine displays of plows and machines, including a lot of plows from the Moline works, which were got up for the St. Louis and our State Fair. This department was constantly thronged by our farmers, examining and discussing the merits of the different machines. Special premiums were awarded to the plows from Moline, to Manny's self-raking reaper and to Cummings' stalk and straw cutting machines.

The exhibition of Grain and Vegetables was not equal to last year, nor as good as it should have been this year; though the season has been so unfavorable for the perfection desirable for a fine display. The samples shown were good, and we urge our farmers and gardeners to pay more attention to this useful and attractive branch of our fairs.

In Dairy and Farm Products, the show of butter was not so large as last year, but was all of superior quality. The show of bread, honey, fruits, &c., was fair only.

The display of Orchard and Garden Products was good, in consideration of the season. A light show of apples was anticipated, as the crop is much injured, and is light in all parts of the county; but the display was better than could have been expected. Some splendid fruit—apples, pears and peaches—were shown, and sustained the reputation of our county in this most important and valuable branch of the farming interest.

Flowers and Shrubs were in fair numbers, but not as good as we hope to see next year.

In Household and Textile Fabrics the display was good, and fully proved that the hands of our county ladies have not been idle through the year.

The Fine Arts department was not as well represented in numbers as last year; but improvement in true art and taste was manifest. All entries were of home production, and nearly every one of superior merit.

The display of Ladies' Fancy and Ornamental Work was large and excellent. Great credit is due to the ladies for their fine additions to the beauties and attractions of the fair; and if all other classes would show as much interest, and keep up their own departments as well as the ladies do in theirs, our fairs would show great advance and improvement.

The Mechanical Department was well filled, in consideration that this is the first time they have been represented as part of the association; and the works of our mechanics stand on the same footing as the productions of our farmers. Yet it could have been made much finer if proper exertion had been made by the mechanics to show what they could do. That next year a great improvement in this way will be made, there can be no doubt. To notice some of the prominent articles in this class, as classified in the premium list, we mention:

In Engines and Machinery—Two beautifully finished steam engines, complete; ornamental fountain; smut machines; grain separators; Hayes' hub-boring and morticing machines; planers; machine for working irregular forms of wood; water rams, &c., &c., all of beautiful finish, and all celebrated and valuable machines.

In Stoves and Castings—The display from Comstock & Co. was large and of superior finish and merit.

The exhibition of Vehicles was, of itself, worth the admittance to see. The display of fine carriages, buggies, sulkies and farm wagons, from the celebrated establishment of Messrs. Hayes, Woodruff & Co., was the best ever seen at any fair, and our city and county can safely challenge the State for a display equal to it.

The show of Cabinet Ware was small, but good. Some splendid pieces of work were exhibited, elaborately carved and ele-

gantly finished, which cannot be beat by mechanics in any other section.

Our coopers and carpenters made a display of their wares, all of which was excellent, and some of superior and elegant workmanship.

Our harness-makers, shoe-makers and glovers made a fine display. Some elegant harness and saddles were exhibited, and our people have no need to go abroad, to own as good an article in this line as can be procured anywhere in the country.

Book-binders', hatters' and upholsterers' work was shown, and all fine. Splendid specimens of book-binding were exhibited by Geiger, Gardner & White, who have for years taken the premiums at our State Fairs, and who stand at the head of their profession.

There was a fine display of marble work, and several barrels of superior flour. A splendid rifle, of Quincy manufacture, deservedly received a silver medal.

In the Miscellaneous Department, there were a number of useful and beautiful articles—some specimens of lard oil and stearin; splendid sign painting; two dynamometers of new and beautiful construction, made by W. Battell, to whom was awarded a silver medal; piano-fortes; water filters; beautiful pictures in moss and vegetable matter entirely—which attracted great attention and called forth constant exclamations of surprise and admiration. A special premium was offered for the best sewing machine, and, after an examination, a silver medal was awarded to the Boudoir machine.

Three premiums were offered by Loage & Barnum for the best work done on one of the Boudoir machines, and were awarded—one of ten, one of five, and one of three dollars.

The Plowing Match was the first one ever held in the county, and it attracted much attention and interest, not only from the farmers, but from the city people; and the ground was thronged. The results of the match are good, and a greatly increased interest will be felt in it next year. It has become an institution of our fairs.

The following is the report of the committees at the plowing match and trial of plows:

PLOWING MATCH.

The Awarding Committee in the Plowing Match for old ground plows would report ten entries made for two-horse teams; all very fine plowing for superior tilth and depth. We award the first premium to K. K. Jones, plowed in thirty-five minutes—silver medal; the second to W. W. Beam, plowed in twenty-six minutes—$5.

The awards in the plowing match for boys sixteen years of age and under, first premium to P. G. Beam—bronze medal; second premium to —— Eells—$2.

One entry with one yoke of oxen, plowing done in a workmanlike manner, by Francis Hubbard, plowed in thirty-four minutes, first premium—silver medal.

TRIAL OF SOD PLOWS.

The Awarding Committee appointed to decide upon the merits of two-horse sod plows, would report that only two were entered—one a 12-inch cut, by L. & C. H. Bull, manufac-

tured by John Deere, of Moline; the other a 14-inch cut, manufactured by Battell, Woodruff & Boyd, of Quincy. The committee found it a very difficult matter to determine, as both plows performed in a fine, workmanlike manner. Upon applying the dynamometer, the plow made by Battell, Woodruff & Boyd proved to be the least draught, and we therefore award the premium to Battell, Woodruff & Boyd—silver medal. The draught of the plows, as indicated by the dynamometer, was—for J. Deere's 12-inch plow, 400; Battell, Woodruff & Boyd's 14-inch plow, 325.

On Friday, the last day of the fair, at ten o'clock, an address was delivered before the Association by Rev. Mr. Billings, which was listened to with unflagging interest by all who could get within sound of his voice.

The fair was well attended, though not as many were on the ground at any one time as last year. The receipts from the fair were some four hundred dollars less than last year; which, considering the hard times and scarcity of money, together with poor crops, may readily be accounted for.

We consider the Annual Fair of our Association as an established institution in our county; and all that is necessary to make them successful and attractive, as well as useful, is for all our farmers and mechanics to take an active personal part, and have an interest in them; and we know that Adams county can, every year, make an exhibition of our farm products and mechanical labor that will be equal to, if not excel, any other county in the State.

Our premium list offered for this year was fifteen hundred dollars.

The receipts and expenditures were as follows:

RECEIPTS.

Received State Appropriation	$ 100 00	
Received for advertisements in premium list	358 00	
Received at Fair	1,756 89	
		$2,214 89

EXPENDITURES.

Paid for Printing, Medals, Cash Premiums, Expenses of Fair, Lumber, Cistern, Water Works, Salaries, &c	$2,189 05
Balance on hand to new account	$25 84

All of which is respectfully submitted.

H. D. WOODRUFF,

Secretary Adams County Agricultural and Mechanical Association.

BROWN COUNTY

Officers for 1858:

President—B. F. De Witt.
Vice Presidents—O. P. Gentry, Isham Scoggan and John Maltby.
Recording Secretary—Geo. T. Purkett.
Corresponding Secretary—A. A. Glenn.
Treasurer—Wm. L. Taylor.

The third annual fair of the Brown County Agricultural Society was held at Mt. Sterling, on Thursday and Friday, the 7th and 8th days of October, and was well attended. The interest manifested by the citizens of our county was very deep. The exhibition of was articles fine, though in some things, particularly in fruits, grain and vegetables, was not so good as in either of the preceding years, owing to the partial failure of crops, affecting every thing in that line. The exhibition of cattle was fine, and of horses and mules, good. Our Society is in its infancy, not having been organized quite three years, and yet the effect of it upon the farming community is already quite perceptible. Nearly all our citizens feel a lively interest in encouraging the Society and of building up the agricultural interest in our country as the great interest in which all are directly concerned. The exhibition of farming and mechanical implements was good, though but a few of these manufactured in our own county were on exhibition.

Owing to the fact that the reports of the awarding committees were not made in writing, the Corresponding Secretary can only give the general features of our fair, without descending to particulars. We hope and expect, in 1859, to do better, and to have such an exhibition as will get up a still greater interest in the cause.

A. A. GLENN, *Cor. Sec.*

BOONE COUNTY.

Officers for 1858:

President—Allen C. Fuller.
Vice-President—John B. Tenber.
Secretary and Treasurer—Geo. T. Woods.

The fair of Boone county was held at Belvidere on the 6th, 7th and 8th of October. On Wednesday, the opening day, the weather was stormy, and little was done. Thursday opened clear and cold, and that day may be considered the first one of the fair. The grounds consist of eight acres of level land, inclosed by a light board fence, eight feet high. Within the inclosure is a large building, 50 by 80 feet, with a good painted roof, made of matched

boards, which, during the heavy rain and wind of Wednesday, leaked but little. There is a good area, surrounded by a low, stout railing, within which is the stand for music, judges, &c. The pens for the stock are arranged on the east and north sides of the grounds.

The amount of stock exhibited was greater than last year. A large number of fine stallions were on the ground. There were fine specimens of Durham and Devon stock; sheep and hogs; barn yard fowls; machinery; agricultural implements; wagons and carriages. In "Floral Hall" there was a fine exhibition of painting, domestic articles, vegetables, productions of the dairy, butcher's meat, Hungarian grass seed, honey, Chinese cane and syrup, sewing machines, &c., &c.

On Thursday afternoon, Judge Doolittle delivered the annual address. It was plain and practical, and embodied a vast amount of good sense. The "Chicago Guards" came on the grounds on Thursday afternoon, where they met the "Boone Rifles" and Belvidere Band, furnishing a handsome military display. The "fire department" of Booneville, with their engine, added to the interest of the occasion. On the same evening there was a fine exhibition of fire works.

There was some fine and graceful riding, by young ladies, on Friday afternoon.

ENTRIES.

The total number of entries for the late fair was 1,180. Of these 529 were in the stock department; in the domestic department, 651. The total number of entries last year was 600, so it will be seen that we have nearly doubled the efforts of last year. Since the organization the rate of increase has been as follows:

In 1855	429
In 1856	500
In 1857	600
In 1858	1,180

This list of entries shows the progress of the Society. The last fair they nearly double those of the fair preceding. Boone county is rapidly advancing in her appreciation of fine stock, fine farming and the advantages resulting from successful annual fairs.

GEO. T. WOODS, *Secretary.*

BUREAU COUNTY.

Officers for 1859:

President—Harry C. Field, Princeton.
Vice-Presidents—Winslow R. Bruce, Lamoille; James M. Dexter, Providence; Ira P. Evans, Buda.
Recording Secretary—Stephen G. Paddock, Princeton.
Corresponding Secretary—E. S. Phelps, Jr., Wyanet.
Treasurer—R. T. Templeton, Princeton.
Directors—Wm. Trimble, Jas. B. Crosby, Aquilla Triplett, L. D. Whiting, Thos. Tustin.

The Agricultural Society of Bureau county was organized July 7, 1855, at which time the following officers were elected:
R. J. Woodruff, President; W. R. Bruce, Vice-President; Stephen G. Paddock, Secretary; R. T. Templeton, Treasurer; H. H. Terry, Verry Aldrich, A. Cook, Thos. Grattridge, Fred. Moseley, Directors.

October 2d and 3d, 1856, the fair was held at Princeton, and the same officers were re-elected for the coming year.

The fair was not well attended, having been gotten up by a few of the officers and others, many expecting an entire failure, some of the officers and members being absent. There was received at this fair.....$346 50
Expended for premiums..... 310 36

Balance on hand..... $36 14

September 30th, October 1st and 2d, 1857, the Society had leased five acres of land and held their fair. Much better exhibition of stock, implements, &c., than last year. Weather fine, and the people taking more interest than on the last.

Balance on hand, after paying for improvements of ground, premiums, &c., $459 65.

At the time of the fair, the Society not having time for the election of officers, the meeting adjourned to March 25, 1858; when, J. V. Thompson was elected President; H. C. Fields, Vice-President; S. G. Paddock, Secretary; R. T. Templeton, Treasurer; W. R. Bruce, John Prouty, J. T. Thompson, S. M. Clark, E. S. Phelps, Jr., Directors; and a Committee to prepare a constitution and present it at the next meeting.

Fair for 1858.—The fair was appointed for September 29, 30 and October 1. The first day of the fair being rainy, the Society held over the fair on October 2. The entries, owing to the rain, were much less than were expected. Not one-half the articles for which premiums were offered were on exhibition.

Receipts..... $996 05
For premiums, fixing ground, &c..... 1,137 16

As on last year, not having time at the fair, which was the annual meeting adjourned to February 10, 1859.

A general committee of twenty-five were appointed, who are charged with the interests of the Society in the towns in which they shall respectively reside, and will constitute a medium of communication between the Executive Committee and the remote members of the Society.

We have recommended the organization of Farmer's Clubs in each town, for the discussion of subjects, and the general knowledge and improvement of the science of agriculture.

We have also made out a list for premiums for the fair of 1859. Our motto is "Onward," and I trust that ere long you will hear of a society second to no one in this state.

Owing to many difficulties that have been in the way, I have been enabled to make but a meagre report of this Society, but hope that hereafter this Society, which has never been mentioned in the report, will be one to which the farmers of Illinois, as well as of this county, will look to as a model society.

I believe the science of agriculture is but in its infancy, and that many things now scarcely noticed will become, by light and knowledge, the leading features at our fairs.

One alteration, I believe, will be made; that is, large premiums will be offered to those who shall produce the *best* fruits and vegetables, instead of horses, cattle, hogs, &c. The people will look upon these, with the grains, as being the leading features of agriculture. We shall then see these articles brought nearer to perfection. Such vegetables as are now raised by the mass of the people will be considered as worthless trash. What Society will take the lead in these things?

I will try, another year, if it falls to my lot, to make a more perfect report.

E. S. PHELPS, Jr., *Cor. Sec.*

CHAMPAIGN COUNTY.

Officers for 1858:

President—A. G. Carle.
Vice President—John B. Thomas.
Secretary—T. R. Webber.
Treasurer—J. W. Jaquith.

The fair of this county was held on the new fair grounds of the Society, on the 21st, 22d and 23d days of September, 1858. The fair was a fine one, and the disposition to sustain the county Agricultural Society and extend its usefulness is manifest. We notice that some of the stock which carried off the first premiums at the State Fair were here on exhibition, and again were decora-

ted with the "blue ribbons." Champaign county contains a valuable class of farmers who are making that county one of the most productive in crops and famed in the State for stock. Entries were made and premiums awarded for horses (stallions, mares, draft horses, carriage horses and others;) cattle of Durham stock, fat cattle and working cattle; hogs, sheep, jacks and mules, poultry, agricultural implements, products of the dairy, the kitchen, the garden and the farm; products of the needle, household manufactures, etc., etc. The destiny of the Champaign Agricultural Society is now onward. The Society has the support of men who realize the importance of improvement in every department of agriculture.

T. R. WEBBER, *Secretary.*

CLINTON COUNTY.

Officers for 1858:

President—O. B. Nichols.
Vice Presidents—Smythe Moore, William Blackman, J. J. Justice.
Cor. Secretary—B. Taylor.
Rec. Secretary—M. E. Richards.
Treasurer—David Pardee.

A synopsis of the proceedings and business of the Clinton county Agricultural and Mechanical Society is herewith submitted:

We commenced upon a small scale, and have continued small, altho' we are on the increase in numbers as in business. We have had to labor under many difficulties, and still yet have some to surmount; yet we feel encouraged to continue the work begun. As yet we have not been able to procure a suitable site for a permanent fair ground, but are in hopes soon to accomplish that object.

We organized our Society on the 16th day of June, 1856, by electing O. B. Nichols, President; Reuben Rutherford Wm. Blackman and Joseph W. Huey, Vice Presidents; Benjamin Taylor, Corresponding, and Moses E. Richards, Recording Secretary.

General Committee of supervision and solicitation—D. C. Collins, Carlyle; H. C. Gilmore, Centralia; George W. Brook, East Fork; A. J. Carlin, Keysport; Benjamin Taylor, Jamestown; T. L. P. Neal, Shoal Creek; T. S. Rumsey, Aveston; A. K. Vandearen, Dayton; C. H. Guthries, Hanover, and James J. Justice, Pleasant Ridge; and on the 15th, 16th and 17th days of October, 1856, held our first fair, when there was the sum of $221 50 of premiums offered.

Our first annual election of officers was held on the 3d Saturday in December, 1856, when all the officers elected at our organiza-

tion were re-elected to serve for the year 1857. Under the supervision of the same officers our second annual fair was held on the 7th, 8th and 9th of October, 1857, when the sum of $451 50 was offered in premiums, and the sum of $331 was awarded and paid.

Our second annual election of officers was held on the 3d Saturday in December, 1857, to serve for the year 1858; when the officers were elected, to-wit: Smythe Moore, President; D. C. Collins, James J. Justice and David Pardee, Vice Presidents; O. B. Nichols, Corresponding Secretary, and James Wightman, Recording Secretary; A. R. Vandearen, Dayton; John Stephens, Trenton; T. L. P. Neal, Aviston; Franz Albers, Hanover; Posey Maddux, Pleasant Ridge; W. H. Maddux, Carlyle; Covington Allen, Collin's Station; W. P. Casey, Jamestown; G. W. Entreken, Shoal Creek; Alfred Tucker, East Fork; Thomas Keyes, Keysport, and Wm. B. Johnson, Crooked Creek, General Committee; and under the supervision of these officers the third annual fair was held on the 13th, 14th and 15th of October, 1858, when there was offered in premiums, $432; and the premiums awarded and paid were, $352 50.

SYNOPSIS.

In 1856, Amount of receipts	$472 87
" Expenses and premiums paid	472 87
In 1857, Amount of receipts	$285 00
" Expenses and premiums paid	285 00
In 1858, Amount of receipts	$431 19
" Expenses and premiums paid	431 19

To which we might say that there are sundry amounts yet due the Society from those who have subscribed for life membership, to-wit: amounting to $50.

In the year 1856 there was 166 articles entered for exhibition.
" " 1857 " 269 " " "
" " 1858 " 541 " " "

O. B. NICHOLS, *Secretary.*

CLAY COUNTY.

The Society for this county was organized February 7th, 1857, at this place; and the following persons were elected as officers for the year 1857: Major John Onstott, President; Jackson Barker, Thompson Bothwell, Francis Apperson, Vice Presidents; B. B. Thomas, Recording Secretary; J. W. Wescott, Corresponding Secretary; Joseph Bates, Treasurer. A general committee of one member for each precinct in the county was appointed; which committee was instructed to attend to the interests of the Society throughout the county.

The first annual fair was held at Xenia, October 15th and 16th, 1857.

The Society paid	16	premiums on	Horses,	amounting to	$55 50
"	12	"	Mules,	"	43 00
"	16	"	Cattle,	"	58 50
"	6	"	Hogs,	"	20 00
"	4	"	Poultry,	"	3 00
"	24	"	Grain and Fruit,	"	32 50
"	5	"	Agricultural tools,	"	17 00
"	31	"	Ladies' departm't,	"	76 50
Total amount of premiums paid, 1857					$306 00

The members of the Society met December 28th, 1857, at Xenia, for the purpose of electing officers for the year 1858. Whereupon Major John Onstott was re-elected President; K. K. Farris, Thompson Bothwell and Jackson Barker, Vice Presidents; Isaac Hoskinson, Treasurer; Wm. Elston, Recording Secretary; B. B. Thomas, Corresponding Secretary.

The Society met 8th March, 1858, to decide by ballot where the fair grounds should be permanently located; and Xenia receiving the majority of votes, was declared to be that place. Since which time the officers raised by subscription the amount necessary, and fenced the fair ground in good style, and have a well and other conveniences inside the grounds.

The Society met at the fair grounds, October 12th, 13th and 14th, and held their second annual fair. 23 premiums were paid on horses; on cattle, 15; hogs, 7; sheep, 2; poultry, 4; grain, etc., 13; farming utensils, 6; ladies' department, 57. Total amount paid in premiums this year $154.

Previous to their exhibition the members listened to an agricultural address from the Hon. S. L. Bryan, of Salem, Illinois, which was both instructive and interesting. Were it possible, the Society would be pleased to see it published in connection with this report; but it was delivered extemporaneously by the honorable gentleman, during an hour stolen from his extensive professional business. Consequently the Society is without a manuscript copy of the speech. The Society is in a flourishing condition, and we flatter ourselves with confidence, that the third annual fair of the Clay County Agricultural Society will be worthy of our county.

B. B. THOMAS, *Secretary.*

CRAWFORD COUNTY.

The fair in this county took place in Robinson, in the last week of October. The exhibition of articles was much superior to that of the previous fair; and the receipts were about double. These

facts are greatly encouraging to the Society. The people seem to be coming up more generally than before to its assistance. The exhibition of fine stock, fruits, the products of the farm, etc., are stimulating our citizens to improve in all these branches of agriculture. The soils and other advantages of Crawford, if improved by our citizens, will make this one of the best agricultural counties in southern Illinois.

At the close of the fair, John Scofield, Esq., delivered a very acceptable address. He impressed upon his hearers the necessity of improvement in agriculture and in education—which would speedily result in giving Crawford county a high stand as one of the leading progressive counties of the State.

SAMUEL PARK, *President.*

C. H. FITCH, *Secretary.*

CHRISTIAN COUNTY.

The Christian County Agricultural Society was organized on the 21st day of July, 1856, by adopting a constitution similar in form to the one recommended by the State Society, and electing the following officers, to-wit: President, George Housely; Vice Presidents, Griffith Evans, H. O. Farrel and A. D. Northcutt; Recording Secretary, D. D. Shumway; Corresponding Secretary, John D. Brown; Treasurer, J. H. Clark. The first fair was held on the fair grounds immediately south of town, on the 21st, 22d and 23d days of October, 1856. The fair was considered good for the first one, and gave general satisfaction, I believe. The Society own fifteen acres of ground adjoining the town of Taylorville; we have it partially fenced. It is a beautiful place to hold our county fairs. There is shade and abundance of spring water on the premises. The Society purchased the ground of A. Sattley, Esq., at fifty dollars per acre, making the sum of $750; but Mr. Sattley, being a great friend to the agricultural interests of the county, generously gave the Society $200 out of the above amount.

The second meeting of the Society, for the election of officers, was held at Taylorville, on the 3d day of December, 1856, which resulted in the election of the following officers, to-wit: President, Jacob Maxwell; Vice Presidents, A. D. Northcutt, V. T. Priest and James H. Hill; Recording Secretary, W. A. Goodrich; Corresponding Secretary, A. Sattley, and J. H. Clark re-elected Treasurer. The second fair was held on the fair grounds, on the 21st, 22d and 23d days of October, 1857. There was an increase of stock and interest at this fair. On the last day of the fair, D. D. Shumway, Esq., delivered an address, which was listened to with interest by a large portion of the farmers of Christian. Amount of premiums, $419.

The third meeting of the Society was held on the 2d day of December, 1857, for the purpose of electing officers for the ensuing year, to-wit: President, A. Sattley; Vice Presidents, F. Wallhouse, John B. Ricks and John S. Fraley; Recording Secretary, W. A. Goodrich; Corresponding Secretary, D. D. Shumway; Treasurer, V. T. Priest.

The third fair was held on the 22d, 23d and 24th days of September, 1858, on the fair grounds. The fair was one of interest, and there was a large increase in the number and quality of Horses, Mules and Cattle. Doctor Hinckley delivered the annual address, which was appropriate and correct. The amount of premiums paid at this fair was about three hundred dollars. Several persons gave their premiums to the Society, to aid them in fencing the fair grounds. The ground is paid for and two sides of it fenced with a board fence about eight feet high, sufficiently close to prevent persons on the outside from seeing what is going on inside. The Society has received no aid only from the State—the county has neglected to give anything to the Society, and I am afraid the neglect will continue.

The fourth meeting, for the election of officers for the ensuing year was held in the court house, Taylorville, December, 1858, when the following officers were elected: John B. Ricks, Esq., President; Joel Potts, Eli Porter and James H. Hill, Esqs., Vice Presidents; W. A. Goodrich, Esq., Recording Secretary; S. S. Cisna, Corresponding Secretary, and A. Simpson, Esq., Treasurer.

S. S. CISNA, *Secretary.*

ADDRESS, BY Dr. N. H. HINKLEY,

BEFORE THE CHRISTIAN COUNTY AGRICULTURAL SOCIETY, ON THE 24TH SEPTEMBER, 1858.

Mr. President, and Gentlemen of the Society:

The short time you have given me to prepare an address to be delivered before you, must be an apology for any deficiencies you may perceive in what I am about to say.

Ladies and gentlemen: I am here to-day at the request of the Christian County Agricultural Society, to deliver the address before this, its Third Annual Fair. I design making but a few practical remarks, and will leave for another occasion a more extended and thorough address.

You have assembled here with your fine stock, farm produce, and other articles, to compete for the premiums offered for the best. Is this all the good you are to desire from the fair? Is the premium, when you have gained it, to be the end of your success? Let us hope not.

You have taken a little more trouble than usual to produce the best and gain the prize. What does this tend to? and why does the Society thus stimulate you to produce the best? Not merely to say that a certain person received such and such a prize, and

that farmer A. had a very fine horse, or that his wife took the prize for good butter or cheese?

No, fellow farmers; there is an object in these agricultural fairs that I am afraid you do not all understand well enough—something beyond the mere show itself. They are a branch of the farmer's education, and should be well studied, and more generally attended by farmers, their wives and children.

The societies which institute these fairs for your pleasure and profit, offer you premiums for the best; but they do not expect that the inducement to show one or two good animals, or some superior articles of farm produce, or home industry, will be all the good derived. They believe you will find the small extra attention and care you have taken to produce one fine animal, and the increased value of that animal, when so attended to, will induce you, without further reward, to give all your animals that extra attention, to make them all worthy of a premium, and thus to increase your own wealth, by their increased value. They wish to stimulate you to raise none but good stock, to produce none but good crops, and to show to your neighbors and the world, that it costs but very little more to raise a number one article, while it increases your own wealth more than fifty fold, in comparison with the small extra labor and attention bestowed.

A farmer takes his best animal to an agricultural fair, and is awarded a premium for it. "Why, bless me!" says his neighbor, "if I had only paid a little extra attention to one of my animals, I would have taken that premium." Exactly so, my friends; that is just what is wanted, and is one of the principal aims the agricultural societies have in view. It is to induce every farmer to raise stock and crops that will always take a premium—to have it said that this county can produce more fine farms and stock than any other, and that, as a consequence, the farmers are richer and better off than their neighbors in another county. They want it said, ladies, that Christian county makes the most and the best butter, raises the most and the fattest poultry, and that her wives and daughters make the best bread, keep the tidiest houses, and are the most thrifty housewives. If it is a credit to a county to have one man in it who raises prize stock, how much more credit is there when that same county has one hundred such men.

The great aim and intention of agricultural fairs is, then, improvement. It may be a question, how can this improvement be soonest accomplished, and in the most economical manner? Again, your agricultural fairs assist you; they are open books of living letters. Here are shown all sorts of agricultural implements, tending to lessen labor, and do your work in a better manner. Farmer Oldtimes comes to the fair with a statement of his crops and a sample, and, having a good article and a fair yield, expects to take the premium. But he is astonished when he finds Farmer Go-ahead has a crop superior to his in quality and yield, and produced by less labor and cost. He demands the reason;

"for," says he, "my land is as good as yours, and I think I work as hard as you do." "Why, sir," says Go-ahead, "I use some agricultural machines to assist me in my work, that you have not got. They do the work quicker and better, and enable me to do it at the right season, with less labor."

"Well, sir," says Oldtimes, "I must have some of those machines, too; where did you first see them?" "Here at the agricultural fair, and, liking their looks, bought them, and have more than paid for them out of the first crop."

Thus you see, my friends, that agricultural fairs tend to improvement in more ways than one; they not only stimulate you to raise fine animals and crops, but they make you acquainted with the means of doing so in an easier, quicker and more economical manner. Let each one strive to raise the best, and he will be surprised to find how much greater his income is, than it was when he let animals and crops raise themselves. Always raise the best; keep the best animals to breed from, and the best seed to sow. It is folly to expect poor seed to produce good crops. I have been surprised to hear some farmers say that shrunken seed is as good for seed as sound, plump grain. Such is not the case; it cannot be. God says, "as ye sow so shall ye reap;" and it is an established law in nature, that "like begets like." I am aware that it sometimes happens that a good crop will come from poor seed, season and other things being propitious. But it rarely or never happens when you sow good seed, other things being equal, that you do not raise a good crop. Fellow-farmers, never raise scrubs, when you can raise blooded stock.

It is unfortunately the case in this country, that all farm work is done in too much of a hurry. Fields are skimmed over by the plow, seeds sown helter-skelter, and more is wasted on a large farm in Illinois than would maintain many men a season. The great trouble is, in the United States—but more especially in this, the Great West—that farmers are anxious to own and cultivate too much land. It is this that leads to such careless farming. Having more land than can be well cultivated, they attempt to farm it all, and do not half do it. The man who cultivates forty acres of land in the manner it should be done, makes much more than he who imperfectly farms one hundred. A serious evil arising from this attempt to cultivate too much land is, that it almost invariably runs one in debt, inasmuch as the crops so produced are but small, and the expenses great in proportion, while the quality is generally poor, and commands but a small price.

This haste to get rich is but the road to poverty. Solomon says, "The thoughts of the diligent tend only to plenteousness, but of every one that is hasty, only to want."

Let your work be done well, and at the proper time, and you will then cultivate no more than you are able to do. * *

Farmers, take the papers. Take your county papers, that you may know what is going on in your own county. Recollect, the

more subscribers a paper has the better it is, inasmuch as the publisher has some stimulus to make a good paper when he has plenty of subscribers.

Take an agricultural paper. In this age of progress it is impossible to carry on any branch of business without employing every means of knowing what the rest of mankind are doing in the same branch—what was the last discovery, and how the most can be made from the labor and capital employed. Reading and reasoning, thinking and acting, are rapidly changing the whole face of the civilized world. Such as persist in refusing to read, study, and improve the inner man, will travel in the footsteps of those untutored savages who have become extinct on the very soil these would-be farmers are attempting to cultivate, because they despised the admonitions of cultivated reason.

The period has gone by when men can expect to succeed in doing all by main strength. Labor directed in this way will not only wear out in vain the hands that toil, but will wear out or impoverish the soil upon which they are employed. * * *

Do not place too much reliance upon any one crop. Wheat is an insecure crop, especially in the manner it is cultivated here; corn fails sometimes too; stock are liable to accident and disease. Let your crops consist of a variety of things, and let come what may, all will not be lost. * * * *

The past year has been one of unprecedented trials to the farmer, from the effects of which it will be some time yet ere relief will be felt. First came the financial crisis, which shook the whole civilized world with its ruinous consequences. Farmers were about the last to suffer, but they have felt severely the sudden check to credit. Many farmers had contracted debts in the flush times, which they were sure they would be able to pay by their crops. But how little can man foresee what is in the future! The weather never was worse, nor insects to destroy the crops more plenty. Short crops have been the result, and where was expected the waving fields of ripened grain to gladden the hearts and fill the pockets of the farmer, fields are presented of grain cut to the ground by the hail, killed by the excessive wet weather, or by the thousands of insects that are enemies to the farmer's welfare. What follows? Men who had hundreds of acres of grain with which they expected to pay their debts, are bankrupt. Many are ruined forever, and have to begin the world anew. The question is asked, can such a train of untoward events be prevented in future? We answer, in a measure they may be. Avoid running in debt; purchase nothing but what necessity demands; always, if possible, pay as you go. By so doing you avoid accumulating debts that are difficult to pay. Very good; but you ask, can we not remedy the bad crops? Hail storms you cannot prevent; they are under the management of Him alone who rules the tempest. Excessive rains you cannot prevent; but you can in a great measure, and in some places entirely, the injurious effects result-

ing from so much rain. Drain your land. Make good open ditches for the mains, and use blind ditches to empty into them. If your means do not allow you to go into the business as you should do, do a little at a time. Make plenty of water furrows and keep them open. Plow your ground in narrow lands until you are able to ditch it. Make all the outlets possible for getting rid of the surplus water. Let each man see that he drains his own land, and persuade his neighbors to do likewise. It will pay you well. Such land is much easier to cultivate, keep mellow in dry seasons, and yield much better crops. Land well drained can be plowed very soon after rains, when similar land not drained cannot be worked for days after. The prairies in this latitude cannot be depended on for wheat until they are drained. Hundreds of thousands of dollars are annually spent in England for ditching, and our own Eastern States have begun to use tile draining quite extensively, finding it pays well.

There are various modes of draining, any of which you can use that is most convenient for you. Try draining; commence with ten or twenty acres to satisfy yourself, and I guarantee you will not stop short of your whole farm. * * * * *

And now a few words about home comforts and I am done. Do not neglect your animals; see that they have shelter in winter and wet weather. A good barn (a scarce thing in Illinois) will more than pay for itself in a few years, in the saving of food to your animals, in the saving of waste by feeding out doors in mud and dirt, and in protection to your wagons and farm implements. A straw-covered shed is better than nothing, and will add much to the comforts of your stock. See that you have your dwelling house comfortable for your wife and family. Let nothing be wanting that will lessen the labor of the women folks. Let your wood and water be handy to the house, and do everything in your power to make your home pleasant and comfortable.

Ladies! do not neglect your share of the domestic duties. A farmer's wife in Illinois has much to do, and much to undergo; and I have no doubt that the saying, "Illinois is a very fine farming country, but the devil on women and oxen," is, in a great measure, true. Ladies, you have many duties to fulfill. The preparing of the necessary food for your husband is not your only duty. Cultivate cheerfulness, and, when your husband comes in tired and weary with toil, wear a smiling countenance and have a pleasant word for him. When misfortune comes cheer him up; God has given you to him as a comforter, and as such you should be. Teach your children how to behave; teach them morality, and let them know their duty to their parents and their God. Be prudent and economical; be in all your household neat and tidy; and always be ready with the best dairy products to take the prize at the fair. Plant flowers and shrubs around your house, and make it look cheerful outside as well as in. It is in your power to make home the most pleasant place your husband can go to; let it always be so, and life will have its reward. * *

ADMIRAL, 2nd. **CAROLINE, 2nd.**

CAROLINE 2ND is red and white. Calved June 12, 1858. Bred by and the property of J. M. Hill, Walnut Hill, Cass county, Illinois. Got by imported Admiral, 2473, out of Caroline, by Arrow (9906); Bellrage, by Harkaway (9184); Gaudy, by Marmion (4883); Moss Rose, by Locomotive (4224); Adelaide, by Cleaveland (429); — by Alfred (23); Cupid, by Suwarrow (636).

She was awarded a premium at the Cass county fair when two months old.

ADMIRAL 2ND is out of Bracelet, the first prize cow at Centralia, in 1858.

[Face page 197

CASS COUNTY.

Our Society organized January 5th, 1855, Hon. Francis Arenz, President. We held our first fair on the 11th and 12th of September following, when the friends of agriculture were agreeably surprised by the lively interest manifested by our citizens, from every part of our county, and many persons from adjoining counties, both by bringing articles and stock for exhibition and encouraging us by their presence and manifestations of satisfaction.

The proceedings gave general satisfaction, and established our Society, in the minds and hearts of our people, as a useful and necessary institution to bring out and fully develop the resources of our county.

Stimulated by our success in this our first, we made additional preparations for our next fair, and elected the Hon. David Epler, President, who had served in that capacity for the previous year, owing to the death of Francis Arenz, our first President.

In order the better to provide for the comfort of visitors and exhibitors, it became necessary to incur an additional outlay of about six hundred dollars in improving our grounds, but we were amply compensated for our outlay, and we all congratulated ourselves on the success that attended this our second fair. Our receipts exceeded one thousand six hundred dollars, and we paid out in premiums, at eastern cost, one thousand dollars.

This year we paid a dividend to the stockholders in the fair ground association of ten per cent., and had a balance in the treasury, for improvement and contingent expenses, of three hundred dollars. It is due to say that a part of this was left over from the proceeds of the fair of 1856.

Our fair for 1858 was by many from adjoining counties considered a model fair. We were honored and encouraged by the presence of many visitors from adjoining counties, whose names have become favorably identified with the agricultural interest of the state of Illinois, among whom we would mention Henry Jacoby, of Sangamon county; Stephen Dunlap and R. Pollock, President and Ex-President of the Morgan County Agricultural Society; and Jas. W. Sweeney, Secretary of the Schuyler County Agricultural Society, and formerly Secretary of this Society; and others not now recollected.

Every department was well represented, and in many cases the animals and articles were all so meritorious it was a difficult matter to determine where the ribbons belonged. Where all were so deserving, the judges felt that it was an unpleasant duty to discriminate.

The ladies fully sustained our highest expectation, in their department, this year, in the very large quantity and variety of useful and fancy articles on exhibition. They also were on hand with a great variety of articles in the line of table comforts, which, in our judgment, did great credit to their taste and useful habits; for

in our judgment, a lady deserves much more credit, in an agricultural point of view, for baking a good loaf of bread or making good butter, than for making a fancy pin cushion or arranging tastefully a bunch of natural or artificial flowers.

The Mechanical Department, we regret to say, was not as well represented as we think that important interest deserves, although in many articles the exhibition was all that its most sanguine friends could have desired. Among items of interest in this department was a model of a self-raking and reaping machine, invented and patented by Joseph Black, of our county, which commended itself to the judgment of all who examined it, and in our judgment this reaper is destined to take a prominent position among the very many useful machines of this kind in our country.

The number of entries of cattle was large, and of very fine quality. The ring of sweepstake cows had seven entries, and made one of the finest shows of the kind we ever saw. They were all thorough-bred and in fine condition, and were valued by their owners at not less than $7,000. Suffice it to say, that we had five of the recent importation from Europe on exhibition, which were decidedly fine; yet when brought in competition with some bred here, good judges decided in favor of the latter.

In horses we had spirited competition, and a very fine exhibition of the various classes for which we had offered premiums.

All of which is respectfully submitted.

HENRY S. SAVAGE,

Secretary Cass County Agricultural Society.

COOK COUNTY.

The following is an abstract of the history and transactions of the Cook County Agricultural and Horticultural Society for the years 1857 and 1858:

On the 7th day of August, 1857, a meeting of the citizens of the county was held at the office of the "Prairie Farmer," in Chicago, to take steps to organize a county society.

The following resolution was adopted at this meeting:

Resolved, That we deem it expedient and proper that Cook county shall sustain an Agricultural and Horticultural Society, and that we, here present, take the necessary steps to secure such an organization as soon as possible.

A committee was appointed to draft a constitution and by-laws, and report at the next meeting.

August 14, 1857.

At an adjourned meeting, the Committee reported constitution and by-laws; which were adopted, and an election of officers took place. The following are the names of the officers elected:

President, L. B. Taft, Chicago; Vice-Presidents, (one from each township represented,) John Gray, of Jefferson; John Periam, of Calumet; James L. Wilson, of New Trier; Dr. J. V. Z. Blaney, of Evanston; Edgar Sanders, of North Chicago; Capt. J. D. Webster, of South Chicago; Dr. F. T. Miner, of Wheeling; Dr. J. A. Kennicott, of West Northfield; Treasurer, F. H. Benson, Chicago; Corresponding Secretary, Charles Kennicott, West Northfield; Recording Secretary and Librarian, Frank W. Reilly, Chicago; Executive Committee, L. B. Taft, *ex officio* Chairman; Dr. J. A. Kennicott, John Periam, John Gray, Edgar Sanders, Carew Sanders, Chas. Kennicott.

One thousand copies of the constitution and by-laws were ordered printed, and the Society adjourned to the 28th of August.

—

August 28.

Society met, pursuant to adjournment.

Vice-Presidents from the towns not previously represented were elected, viz: Simeon Lee, of Maine; J. C. Haines, of West Chicago; Mark Crandall, Bremen; Samel James, Thornton; Jos. E. Kennicott, Elk Grove; A. Hemmingway, Leyden; Homer Willmarth, Barrington; Edward Bartlett, Hanover; Morgan Johnson, Palatine; Wm. White, Niles; Jacob Keihl, Rich; B. Morris, Bloom; Granville Peck, Shaumberg; D. C. Thatcher, Proviso; James Michie, Lyons; H. Dennis, Lake View; Wm. Jackson, Orland.

The Executive Committee reported in favor of holding a fair in October, and presented an estimate of the probable expenses and income.

The report of the Committee was received and adopted; whereupon it was

Resolved, That the residents of Cook county and citizens of Chicago, in particular, be asked to contribute five thousand dollars to enable the Society to hold a fair this fall, and place the Society on a permanent basis.

A subscription list was opened and a Committee appointed to solicit subscriptions.

Resolved, That each Vice-President be requested to associate with him two members from his respective township, to act as a Town Agricultural Committee, whose duty it shall be to stir up the farmers of their respective townships to the necessity of taking hold, heart and hand, of the getting up of a county fair this fall; and, also, to collate and report to the Secretary, for use, such agricultural statistics, in relation to their several townships, as may be of interest to the community generally, and the members of the Society in particular.

Charles D. Bragdon was elected a member of the Executive Board, to fill vacancy.

Adjourned, to meet September 18.

The Committee to obtain subscriptions reported. The lumbermen in the city subscribed fifty thousand feet of lumber for the necessary buildings, fences and fixtures.

Chas. D. Bragdon was elected Actuary of the Society, and power delegated him to receive subscriptions, make collections, erect buildings and make all necessary preparations for the fair.

President Taft tendered his resignation, in consequence of other engagements; which was accepted, and Jonathan Periam, Esq., elected in his place.

Adjourned to meet September 25.

—

It is unnecessary further to follow the steps taken by the Society in order to make their first exhibition a successful one. It should be remembered that the time intervening between the 18th day of August, the day it was decided to hold a fair, and the 14th day of October, the date fixed for the opening of the exhibition, was short in which to prepare a premium list, raise the necessary subscriptions, make the necessary preparations, do the necesary advertising, and manufacture the necessary enthusiasm. Added to this short time were greater obstacles. The money panic of 1857 was raging terrifically. There was neither cash or credit to be obtained. Although five thousand dollars, cash subscriptions, had been pledged by a number, besides the lumber, only about three hundred dollars could be secured! Men who, under ordinary circumstances, would have subscribed two hundred dollars, reluctantly pledged themselves to pay *two* dollars. The city press looked upon the whole movement as presumptuous, and some of its members advised the Actuary to "drop the thing," after the buildings were nearly completed, so great was the pressure of panic and 'hard times.' I am thus explicit in this record because the officers of the Society have been charged with inefficiency. Maliciously and with no foundation have such charges been made. I may be allowed to quote from an editorial in the "Prairie Farmer," dated October 15. The editor says:

"To-day (Wednesday) is the first day of the Cook County Fair. Although only a few weeks have elapsed since the announcement was made that a fair was to be held this fall, yet in that brief time gigantic preparations have been made, and the show bids fair to equal an ordinary state exhibition. From an examination of the premium list, we are struck with the liberality with which a Society so recently organized offers $3,000 in premiums; and with corresponding liberality and enterprise, befitting the commercial metropolis of the northwest, has thrown open competition, unrestrained by any petty confines of geographical limit.

"A recent visit to the grounds, on North Clark street, shows, also, that the Society does not mean this as idle bombast, thrown in for effect, for they have erected about two hundred commodious and roomy stalls for the accommodation of cattle and horses; have a fine, large hall for the exhibition of miscellaneous articles, and one devoted exclusively to the exhibition of fine arts and scientific productions."

The show of horses was large and excellent. The exhibition of cattle was much larger than was expected, and numbered several fine

animals. It was the opinion of those who had attended fairs that the show of vegetables was the finest ever had in the state. The exhibition of fruits and flowers was creditable; indeed it was scarcely anticipated by those best acquainted with the resources of the county that such an impromptu exhibition could be made.

In the Departments of Fine Arts, Domestic Manufactures, Machinery, &c., the exhibition was only limited by the space prepared for its occupation.

On the third day of the fair, the number of visitors in attendance was variously estimated at from 10,000 to 15,000.

The receipts from this exhibition exceeded $3,000. The fair continued four days. The first two days were cold and wet; the last two damp and unpleasant. Had it been otherwise the receipts would have been increased one-third. It, however, proved a successin every respect. Errors were made and lessons learned by the Executive Board; one essential lesson, viz: that exhibitions that are not legitimately appropriate to a farmer's festival are great nuisances, and should not be tolerated in connection with or as adjuncts to the same; that the influence they exert is not productive of any good to those these gatherings are intended to benefit.

The first annual meeting was held the evening of the second day of the fair for the election of officers, with the following result: President, Dr. John A. Kennicott; one Vice-President from each township; Recording Secretary, Frank W. Reilly; Corresponding Secretary, Charles D. Bragdon; Treasurer, H. D. Emery; Executive Board, Chas. Kennicott, John Gray, H. D. Emery, James Michie, S. D. Childs, James L. Wilson.

TRANSACTIONS FOR 1858.

The executive board, at a meeting held at the Tremont House, March 31st, 1858,

Resolved, That this society hold an agricultural and fine art exhibition some time in June next.

Resolutions were adopted, and committees appointed to further the preparations for said fair.

At a subsequent meeting of the board, the time fixed for this exhibition was the 22d, 23d, 24th and 25th days of June. Five hundred dollars were offered in premiums. Competition was thrown open to the world.

On the 20th of May, of 1858, at a meeting of the executive board, held at the rooms of the Mechanics' Institute, an informal floral exhibition was made by the members, and the public admitted free. The following resolutions were adopted at this meeting:

Resolved, That the thanks of the Society be and are hereby tendered through its executive board, to the ladies and gentlemen who have so tastefully and generously contributed to the informal floral exhibition which graces this hall, furnishing in its perfume and brilliancy, in its liberal proportions and individually fine specimens, an encouraging omen of a future display, worthy, not alone what the Garden City is to the eye of the casual observer, but what its

name indicates it should be; an exhibition, by the way, the value of which is heightened by its impromptu character, and speaking well for the floral resources of our city and county.

On the 22d of June the horticultural exhibition opened at Metropolitan Hall. The exhibition surpassed the expectations of the most sanguine friends of the Society. It was a success in every respect, except pecuniarily. Local causes contributed to prevent this, but although the officers of the Society were obliged to contribute to defray the expenses, the exhibition paid in its influence upon the public—in the establishing a desire for and begetting a love for these humanizing and elevating influences.

It is proper to state that the number of entries in each department would not be taken as indices of the magnitude of the exhibition, as most of the entries represented a large number of plants, the list of premiums having been so arranged as to induce a large exhibition, by offering premiums for the best and largest display of different classes of plants.

The management of the Mechanics' Institute having given the Society the field for its exhibition in the autumn of 1857, the executive board deemed it policy, so far as might be practicable, to unite with said Institute in their exhibition in the autumn of 1858. A creditable display of farm and horticultural products were thus made.

The second annual meeting of the Society, for the election of officers, was held at the Mechanics' Institute Hall, Sept. 6, 1858. The following officers were elected: President, John A. Kennicott; a Vice-President in each township; Recording Secretary and Treasurer, H. D. Emery; Corresponding Secretary, C. D. Bragdon; Executive Committee, J. L. Wilson, S. D. Childs, Edgar Sanders, R. F. Clough, M. S. Johnson, John McIldowney, H. H. Yates, with President Kennicott and ex-President Periam, *ex-officio* members.

I have thus hastily given you a sketch of the proceedings of the Cook County Agricultural and Horticultural Society, up to the close of its second annual meeting. Had I time and you the space, I should like to add to this report some of the conclusions arrived at as the result of some experience and much observation as to the management, scope and influence of agricultural societies. I may be allowed to say that the friends of these institutions will need a vast deal of decision and executive skill if they keep outside all the influences which tend to prostitute and demoralize the objects of these gatherings. This will need vigilance. The foregoing is respectfully submitted.

CHARLES D. BRAGDON,

Corresponding Secretary Cook County Agricultural Society.

DE KALB COUNTY.

Officers for 1858:

President—John S. Brown.
Secretary—Aaron K. Stiles.
Treasurer—Alonzo Elwood.
Assistant Treasurer—David Carr.

The second annual fair of the De Kalb County Agricultural Society was held at Sycamore, on Wednesday and Thursday, September 29th and 30th, 1858. The sun rose bright and pleasant on the first day of the fair. At at an early hour teams began to come in from the country, and the influx continued to increase during the day. The entries of stock were mostly made on the first day, though this was not the case with the other articles. On the second day the attendance was vastly larger than on the first. In fact the town literally swarmed with people on Thursday. The crowd present on the fair grounds was very satisfactory to the Society, and exceeded the expectations of the officers. The premiums awarded show that there were very full entries in the departments of horses, cattle, sheep, swine, millinery and needle-work, agricultural implements, farms, vegetables, &c., &c. The fair passed off, affording general pleasure.

The treasurer of the society reports as follows for 1858:

NUMBER OF TICKETS SOLD AND MONEY RECEIVED.

183 member tickets sold, $1 each	$183 00
2,091 tickets, 10c each	209 10
11 " 15c "	1 65
5 " 35c "	1 75
22 " 50c "	11 00
Cash from door-keeper	31 49
Ticket for lady riding	50
	439 49
Received by Treasurer of Society from the State	100 00
Received by subscription of citizens	105 00
	644 00
Overplus funds of 1857, in hand of Treasurer	12 00
	$656 49

The foregoing is a sufficiently minute account of the transactions of the De Kalb County Agricultural Fair, and although its receipts were small, cannot fail to show an increasing interest among all classes of laborers, producers and manufacturers in the county. As permanent arrangements have been made for the fair grounds at Sycamore, for at least ten years, the Agricultural Society of De Kalb county must be regarded as one of our "useful institutions," and cannot fail to receive from an intelligent and industrious people a sympathy and support commensurate with its beneficent designs.

There is scarcely a county in the State that has kept pace with De Kalb, in increase of population and developed resources, for

the last four or five years. Intersected as she is by the Aurora Extension and Dixon Air Line railroads, her inhabitants are favored with excellent facilities for trade and travel, and a contemplated road, (for which a liberal charter has been granted) extending from La Salle to Belvidere—a connecting link between two successful railways, penetrating the coal region on the south and the lumber region on the north—gives cheering hope that the farmers on the broad ocean prairies, almost out of sight of timber, will soon have fuel and lumber brought to their very doors. In 1850 the population of the county was 7,540, in 1855 it was 13,636, and now it cannot fall much short of 21,000. Considering its territorial extent, it has for the last five years, ranked among the largest and best wheat growing counties in the State. Its staple productions occupy the following order: Wheat, corn, oats, barley, buckwheat, rye, and last but not least, sorghum, from which probably 500 gallons of syrup have been obtained this year.

There have been planted or set out not less than 100 miles of Osage orange hedge in this county within the last four years, but unfortunately a large part of it has been killed by winter or other causes, and is proving comparatively worthless. Yet some hedges that have been carefully attended and protected, have flourished and look finely. Still, as a general rule, farmers are abandoning this method of inclosing their fields.

One more encouraging fact, and this lengthened communication must be closed, viz: The farmers of De Kalb county are generally paying particular attention to the improvement, not only of the condition but breed or blood of their stock of all kinds, and have already some of the best specimens of horses, cattle, sheep and hogs in this State. Long may De Kalb and its Agricultural Society flourish.

D. M. KELSEY,
County Committee for State Agricultural Society.

Malta, Nov. 1, 1858.

DE WITT COUNTY.

Officers for 1858:

President—John H. Lisk.
Vice-President—John D. Hutchins.
Secretary—Robert Lewis.
Treasurer—Wm. Bolin.

The fair of De Witt county came off on the 5th, 6th and 7th, October, 1858. The two first days were unpleasant, but a good many persons were present, and seemed to take a deep interest in the proceedings. The first day was devoted to the exhibition of

cattle, of which there were excellent and numerous specimens. The second day was devoted to the show of horses—a splendid exhibition. Excellent hogs were exhibited, but no sheep were on the ground. The last day of the fair was the great attraction. The display of fancy articles, quilts, &c., was great. Mr. M. L. Dunlap, of Champaign, delivered the address. It was a plain and practical address, bringing into view and commenting upon the various stock and other articles on exhibition. He insisted that as agriculture was the basis of all prosperity in De Witt county, it should receive the fostering care of the county authorities, at least so much as to furnish means for putting in order the fair grounds, which could be made beautiful and convenient by a small expenditure of money collected from the pockets of the farmers. "When," said he, "you will have made the necessary buildings, sheds and stalls for these beautiful grounds, then you will take pride in filling them with the beautiful products of skill and labor, when ripening autumn shall again have shed his glories over your magnificent farms."

ROBERT LEWIS *Secretary.*

EDGAR COUNTY.

Officers for 1859:

President—Samuel Graham, of Paris.
Vice-Presidents—J. J. Blackman, of Wayne; Stephen Ogden, of Simms; N. B. Stage, of Bloomfield; Wm. Blackburn, of Grandview, and Jacob Rogers, of Paris.
Corresponding Secretary—S. P. Read.
Treasurer—Walter Booth.
Secretary—Dr. Ten Brook.
General Superintendent—S. H. Elliott.

The Wabash Valley fair was held on the fair grounds of the Edgar County Agricultural Society, near Paris, on the 28th, 29th and 30th of September, 1858. It was a fine exhibition, better than any which had preceded it. The list of Horses embraced many of the finest. Of Thorough-breds, there were 9 entries; of Roadsters, 79 entries; of Draft Horses, 29 entries, and of Matched and Single Horses, 51 entries; in the Sweepstake Class, there were 41 entries. Cattle—Thorough-bred, 27 entries; Grade Cattle, 24 entries; Sweepstakes, 9 entries. Sheep, 5 entries. Hogs, 35 entries. Poultry, 4 entries. Farming Implements, 24 entries. Mechanical Department and Miscellaneous, 37 entries. Fruits, 9 entries. Dairy and Kitchen Products, 57 entries. Domestic manufactures, 102 entries. Ladies' Needle-work, 70 entries. Flowers and spe-

cimens in Natural History, 20 entries. Farms, 7 entries. Roads, 3 entries. Plowing match, 7 entries. In all, 586 entries.

The fair was a successful one. The interest of the people seemed to be kept up throughout the exhibition. The receipts were satisfactory. There can be no question that this exhibition will have an effect for good on the agricultural, mechanical, and social interests of the people in this section of our State.

S. P. READ, *Secretary.*

FAYETTE COUNTY.

Officers for 1858:

President—Ezra Jenkins.
Secretary—G. L. Jackson.
Treasurer—F. B. Haller.
Corresponding Secretaries—Tevis Greathouse, Jacob Fouke, Jr.

The Fayette county fair came off on the 23d and 24th of September. It was the second annual fair of this Society. The Society grounds, twelve acres, with a beautiful grove, are fine. The weather was good, but there was some inconvenience from the dust. There was a good display in the stock and most other departments. The ladies made a good display in their departments. There was fine syrup of Chinese Sugar Cane on exhibition. Between $300 and $400 were paid out in premiums. At the close of the fair, there was considerable excitement among the young ladies, who would carry off the $10 silver cup for female equestrianism. The fair gave general satisfaction.

G. L. JACKSON, *Secretary.*

FULTON COUNTY.

Having observed, from the second volume of the "Transactions of the Illinois State Agricultural Society," that no report was ever made of the organization of an Agricultural Society in the county of Fulton, I thought it proper, at this time, to give a brief statement of the early days of our association.

On the 25th day of October, 1851, the first meeting was held at this place, to take steps for the organization of a County Agricultural Society. On the 6th of November, following, at a meeting of the friends of the project, the Fulton County Agricultural Society was duly organized, a constitution adopted, and the following officers elected, viz: Henry S. Hyatt, President; J. Rawalt, 1st

Vice President; James Dyckes, 2d Vice President; T. N. Hasson, 3d Vice President; Hugh Lamaster, Treasurer; L. F. Ross, Secretary.

The first annual fair of the Society was held at Canton, October 6th, 1852. Of this fair the records exhibit but a meager report. The receipts for membership paid off the premiums and other expenses and left $59 in the treasury. At this meeting of the Society the following officers were elected, viz: H. S. Hyatt, President; H. C. Nelson, Vice President; Wm. Babcock, Treasurer; Jno. W. Ingersoll, Secretary.

At this meeting a code of by-laws was adopted, defining the duties of the various officers of the Society, and prescribing rules for the government of fairs, etc.

Nothing was as yet done towards a location of the fair grounds of the Society. On the contrary, it was deemed inexpedient to make a permanent location at this early day.

Our county being one of the largest in the State, it was thought advisable at first to hold the annual fairs "around" in different localities, until the farmers and mechanics of every part of the county could, with but little inconvenience, become acquainted with the workings of the Society and the advantages to be derived from it.

The second annual fair was held at Canton, in October, 1853. A balance of $76 65 was left in the treasury after paying premiums and other expenses—though a large portion of the funds expended was raised by voluntary contributions to the Society.

In January, 1854, the old officers were mostly re-elected, and the third annual fair was held at Bernadotte, in October. The exhibition of stock at this fair is reported to have been very good. The committee on cattle, in their report, say that they find their "duties arduous and difficult in consequence of the large number of extremely fine cattle on the ground," and that the show "has been all that its most ardent friends could wish."

The following persons were elected officers for the year 1855: Joseph Dyckes, President; Daniel C. Knox, Vice President; Jas. Rawalt, Secretary; C. C. Dewey, Treasurer.

A resolution was adopted at this meeting,

"That this Society form an agricultural library, and that the public documents now in the hands of the secretary and treasurer, sent to the Society by the Hon. James Knox, and such other public documents as our members of congress may furnish the Society with, be hereby directed to that purpose, to form a nucleus around which an agricultural and mechanical library may be formed, corresponding with the great agricultural and mechanical interests of Fulton county."

The fourth annual fair was held this year at Cuba, on the 3d day of October.

The fifth annual fair was held at Canton on the 23d day of September, 1856, and the following officers were elected, viz: Joseph Dyckes, President; Jas. R. Herring, Vice President; J. H. Stipp, Secretary; J. M. Bass, Treasurer.

From the report of the secretary relative to this fair I make the following extract: "It was decidedly the largest and best show and fair ever held in old Fulton. The horses, cattle, sheep and swine, also all manufactured articles were much superior to those on exhibition at any previous show and fair ever held in the county, which shows that the farmers and mechanics are alive to their interest and the interest of the county. * * *

"The ladies were also on hand with hundreds of nice articles, contending for premiums. What would a fair be worth without the presence of the ladies and the nice things of their manufacture?" (The present secretary would reply "nothing.") Again, "From the thousands of people upon the grounds, it is evident that a proper spirit is manifested on their part for the success and usefulness of the Society, and that it will be sustained."

The 6th annual fair was held at Vermont, on the 10th day of September, 1857. The exhibition of stock was not as good at this fair as usual, from the fact that the fair was held in one corner of the county. The distance was too great to drive stock from the extreme parts of the county, and by previous action of the board of directors, stock from other counties was not admitted to compete for premiums. The following is contained in the secretary's report: "The articles prepared and exhibited by the ladies, were greater in number than at any former fair, and it is questionable whether any other portion of the county can equal the ladies of Vermont and vicinity in the manufacture of domestic fabrics."

At this meeting the old officers were mostly re-elected, and the following resolutions were adopted:

Resolved, That it is the duty of the president and board of directors of the Fulton County Agricultural Society to take such steps as they may think necessary for the permanent location of the annual fair, and call meetings of the Society at such times as they may desire an expression of the members.

Resolved, That the directors advertise for proposals to donate ground and money from the different parts of the county, upon which to locate the fair and fit up the same in proper condition; and after receiving the propositions, that the board of directors select from the proposing points such place as they may think most advantageous to the Society.

Resolved, That at the next annual fair competition for premiums be invited from all the citizens of the State of Illinois, under such restrictions as may be thought best by the directors of the Society.

And at the same meeting the following by-laws which had been suspended were unanimously revived:

SECTION 10. This Society, confiding in the natural advantages of the soil of their county and in the intelligence and industry of its whole community, and desiring (if they have not the best themselves) to have the best before them from which they may learn and pattern, in a spirit of friendly emulation, invite the farmers, mechanics, machinists, fruit growers and producers of every kind, of the adjoining counties of the State or of the world at large, to send or bring on their best products to our annual show and fair, as our premiums are offered for the *best*, let it have its growth or origin where it may.

The members all appear to be well pleased with this policy of allowing unlimited competition—and I haveno doubt it will be the permanent policy of the Society.

On the 18th of June, 1858, a meeting of the directors of the So-

ciety was held at this place, for the purpose of examining the proposals, and deciding on a permanent location of the fair grounds. The citizens of this place having offered $1,000 in cash, and a lease on twenty acres of land, near the town, "to be occupied by the Society, free of charge, so long as it is used for holding the annual fairs." The location was made on grounds about three-fourths of a mile south of Lewistown, the county seat of Fulton county.

The seventh annual fair was held on the new grounds, October 6th and 7th, 1858. The grounds were in good order. Ten acres of the land had been inclosed with a high board fence, and the necessary offices, sheds, stalls, etc., had been built for the accommodation of the officers, members, exhibitors and visitors. The fair was an improvement on its predecessors. The exhibition of stock was decidedly good—showing that our farmers generally were turning their attention to the improvement of their stock of every kind. In horses alone there were 130 entries for premiums. The receipts for membership and admission were sufficient to pay the premiums, $600, and leave a balance in the treasury. The officers for the present year are as follows: President, Joseph Dyckes, of Bernadotte; Vice President, Asaph Perry, Table Grove; Secretary, Leonard F. Ross, Lewistown; Treasurer, H. B. Evans, Lewistown; Directors, H. S. Hyatt, Independence; Ira F. Elrod, Bernadotte; Evan Baily, Vermont; J. M. Bass, Canton; Jonas Rawalt, Canton; Wm. Craig, Otto; H. L. Bryant, Lewistown; Executive Committee, Geo. Humphrey, Nathan Beadles and D. W. C. Bryant, all of Lewistown. There was also appointed in each township one person to act as the agent of the Society, whose special duty it is to obtain additional members to the Society, receive their contributions, circulate agricultural documents, distribute seeds, post notices of meetings and fairs, and generally to advance the interests of the Society.

We have now about five hundred contributing members which, under our present organization, will, I think, increase to one thousand by our next fair.

Our county is one of the largest in the State; has a fine soil; is well watered; has an abundance of timber and stonecoal; inexhaustible quarries of the best building stone, and has a population of over 30,000, which is most purely agricultural. In 1850 we had 273,000 acres of land in farms, valued at $2,817,680, and have $190,000 invested in farming implements. We had, in the same year, 6,388 children *attending school*, and the number will now probably reach 10,000. The present year the lands alone in our county are assessed at over $5,000,000.

We have one railroad completed, which passes through the north west part of our county, and three others, now building, which will probably be completed through the county in the course of twelve months; and when completed it is the intention of our Society to

extend an invitation to the officers of the State Agricultural Society to hold one State fair in "Old Fulton"—and we shall expect our "claims" will receive proper consideration.

Respectfully your obed't servant,

LEONARD F. ROSS, *Secretary.*

HENRY COUNTY.

Officers for 1858:

President—Charles C. Blish, Wetherfield.
Vice Presidents—V. M. Ayres, Cambridge; A. W. Perry, Geneseo; Daniel Timberlake, Oxford.
Secretary—H. W. Wells, Cambridge.
Corresponding Secretary—Daniel Bonar, Cambridge.
Treasurer—F. P. Brown, Geneseo.

The sixth annual fair of the Henry County Agricultural Society was held at Cambridge, on the 22d, 23d and 24th days of September, 1858, on the new grounds of the Society. The grounds embrace twenty acres, most beautifully located, with an abundance of water within the inclosure. Some fifteen acres of the grounds are perfectly level, on which is made an excellent half mile track, the balance of the grounds are rolling, sufficient to drain them perfectly, and to furnish an excellent building spot. The Society purpose soon to erect a large building on these grounds. The lower story will contain committee rooms and offices, with one large room for the exhibition of fancy and domestic articles brought to the fair; the upper story to be one large room for lectures and public addresses or meetings of the Society. The grounds (generously donated to the Society by the citizens of Cambridge) were completely inclosed by a tight board fence, eight feet high. During the fair the most perfect order was preserved by an efficient police force. Twenty policemen were employed, and twelve night watchmen.

The exhibition of horses was certainly very superior. In point of speed, strength, style and endurance, there were many horses here that would rank among the first in the State. One large tent, 40 by 60 feet, was devoted to fancy and domestic articles and fruit, and was completely filled with patch-work bedquilts, fancy blankets, fine embroidery, and many things of cunning work, such as landscape or portraits worked with the needle, a fine table-spread, (on which was wrought beautiful figures,) crayon sketches or paintings in oil or water colors. These, with great apples, jars of pickles and preserves, (the only *jars* there) and ears of corn eighteen inches long, &c., &c., completely filled the tent. There were plows, harrows, horse shoes, reaping machines, ox yokes, newly invented stoves, corn planters, seed drills, all of which had many

commendable features, were exhibited outside. There were some of the finest cattle here exhibited that can be found in Illinois. The Bishop Hill Colony exhibited about forty head of thorough bred cattle, all in fine condition. Many others were on the ground and attracted much attention.

A plowing match was had, and could the actual plowmen of old wooden mold-board plows have seen the ground roll under before these fine polished machines, they would have pronounced the art perfect.

There were perhaps five thousand persons in attendance on this fair; all seemed to enjoy themselves, and to be well pleased with themselves and with every thing else. On the second day a large audience listened to the address of Charles D. Bragdon, after which was awarding of premiums by the committees. On the third day, in the afternoon, came the ladies' equestrian performance. This attracted a larger crowd than had previously been on the ground. It is estimated that no less than three thousand persons witnessed this exhibition, and a fine sight it was. There were thirteen entries, all good riders—all well mounted. These exercises continued for some two hours, to the infinite satisfaction of all.

To this hasty sketch I have only to add that I have seldom seen so large a crowd remain so long a time, without seeming to lose interest in the subject. Here the interest seemed rather increased to the end. The excellent music from brass and string bands, perhaps conspired to increase the attraction. Of the address of Chas. D. Bragdon, (given elsewhere) too much cannot be said. The verdict of the "fifteen hundred" approved it. Though unused to all the appliances, the track, the grounds, the buildings, and the officers all unused to each other or to such business, every thing moved in harmony and in good order. Henry county may justly feel proud of the past achievements of her Agricultural Society, and generously emulate her sister counties for the future advancement of societies for the good of the farmer.

H. W. WELLS, *Secretary.*

ADDRESS, BY C. D. BRAGDON,

BEFORE THE HENRY COUNTY AGRICULTURAL SOCIETY, ON THE 23D DAY OF SEPTEMBER, 1858.

Mr. President, Ladies and Gentlemen of the Henry County Agricultural Society:

I congratulate you upon the measure of success attending this your sixth annual exhibition—upon the evidences exhibited here of care, enterprise and thrift, in agricultural pursuits, by your citizens. But while I congratulate you upon this—upon the securement of convenient and ample grounds for this and future exhibitions—upon the fidelity and industry your officers have exhibited in serving you, evidence of which is apparent to all—may I be allowed to ask a few questions?

Are you satisfied with this exhibition? Are you willing the stranger should receive it as an index of the resources and enterprise of the farmers of Henry county. I cannot say it is not a

complete index of the resources of this beautiful county, but I can say *I do not believe it is*, and I do not believe *you* regard it as such. You are justly proud of Henry county—of its soil, resources and physical features; you are jealous of its fame abroad—of the reputation of its people for intelligence and enterprise. What are you doing to establish it? Are you laboring affirmatively or negatively? Does this exhibition warrant all you claim for your county? What proportion of those that hear me are exhibitors? How great a proportion might have been had a tithe of the effort been expended to prepare for it that has been made by each individual officer (unpaid and too often unappreciated) to accomodate exhibitors. I speak from experience when I say that the officers of county agricultural societies have to labor harder and receive less than men holding any other honorary position; indeed, they receive nothing, except, perhaps, the credit of being most intensely selfish and exacting. I hope the farmers of this county appreciate the efforts of their officers better than is the case in most counties. I do not say they do not.

But what is the effect of this exhibition as a whole. What is the impression it makes—the influence it exerts? Again I ask each individual member of the Society and each individual resident this county, who is not a member but *ought* to be, are you satisfied that this sixth annual exhibition of your resources is all that it ought to be—all that it might be? I ask these questions with no fault-finding spirit or desire to detract from the fame of your county, but because they are important to YOU—because I believe, if rightly and honestly considered and answered, good to the Society will be the result.

I believe the officers of this Society have a *right* to demand their consideration. I hope they will be considered.

Ladies and gentlemen, I am not here to apostrophise Labor, whose representatives I see before me. The day has passed that requires the pen work or tongue talk of any one to proclaim its nobility. It has its monuments reared in every hamlet, town and city; its pencilings are spread in profuse display in every cultivated field, and influence and mould our every movement. You appreciate and glory in the results of labor.

> "————'Tis the primal curse
> But softened into mercy; made the pledge
> Of cheerful days and nights, without a groan."

It is hardly necessary for me to allude to the progress of our country in all that has elevated labor and the laborer. I might name sundry achievements made which are regarded as distinct eras in this age of successive wonders, but they are familiar to you. You are proudly conscious of your position to-day. I hail you as representatives of a generation whose achievements are those of peace—made with the plowshare and the pruning hook—the result of the encouragement given to the arts and manufactures—the tri-

umphs of intelligence and christianity and the promise of still greater triumphs, the prediction of more glorious victories.

I am glad that I am an American citizen. I thank God that I live to-day, and can bear witness to the benefactions—civil, political and religious—that we receive. I thank Him for the principle of progress that is taught in all the phenomena of nature and impressed upon us by the history of past centuries—the essential to an immortal mind. I thank God for these gifts to you and me to-day.

I am not here to tell you how a plow should be held, what depth the furrow should have, or of the constituents of the soil, its chemical changes, or of the effect of atmospheric phenomena upon the growth and maturity of plants. Study and observation will teach you this—experiment and practice will impress it.

It is true we want improved cultivation. Farms must be cultivated and improved. But the mind and heart of the farmer must bring forth fruit. If we desire better work, we must improve the operator and the implement. The farmer must know what tool to use—what is adapted to the work to be accomplished. He must know what aids are necessary to the most successful employment of body and mind. I said the heart must be cultivated. No man can appreciate the works of an Infinite Being who does not recognize His hand and His benevolence and wisdom in it all. Dependence humiliates men, and if we feel our dependence as we ought, we shall the better appreciate the glorious designs emboded in the material objects which surround us.

But I am here to talk earnestly, and as simply as possible, of what cannot, must not be overlooked by men who desire progress and a high attainment in the arts of peaceful husbandry. I am not here simply because I was invited, because I hoped to please; but in the discharge of an earnest duty. I believe all men have responsibilities. Before God, I believe they should discharge them. Whatever we may have the opportunity to say that shall teach the importance of increased effort to promote the intelligence, prosperity and happiness of our fellow man, it is our duty to say. I am here to humbly discharge this duty.

No man can have watched the condition of the agricultural classes—their acquisitions of wealth, their progress the past ten years—without having remarked wants existing retarding their elevation, except so far as wealth elevated them.

No one can have studied the causes which depress the farmer, socially and politically, without having established some opinions relative to these wants—relative to their complexion and character. What are they? What hinders this elevation? If labor is noble and dignified—if to labor is no disgrace, why do we not see more of the practical results of this doctrine? We are in the midst of a most exciting political canvass; perhaps the most exciting that has agitated this state for years. Do not be disturbed, friend, whether Republican or Democrat, for I have no fellowship with modern

politics as practiced, and I shall be as likely to "pitch into" one party as the other. I am not neutral, but independent, and can find rank corruption enough in either party to denounce. But I wish simply to call your attention to the fact that we are being taught the doctrines of "popular sovereignty," which, in plain English, means the right of a people to govern themselves—to enact laws that shall not conflict with common law or the inalienable rights of any one. This is a pure and just doctrine, and I have not a word to say against it, but I have against the practice of some of those who preach it.

We are farmers—agriculturists and horticulturists. Manufactures and commerce are dependent upon the prosperity of ourselves. This rolling earth yields the material, by God's providence and our efforts, that feeds the nonproducer as well as the producer. Increased productiveness of the soil stimulates every other branch of trade. Whatever encouragement, then, is given to agriculture, to the production of material, is given directly or indirectly to every department that is dependent upon it for life and progress. Increased production, therefore, places in our hands increased means of happiness for ourselves and for others. For independent as the farmer may be, he is dependent, to a greater or less extent, (in proportion to the real or imagined wants of his position), upon the trades and the arts, and this dependence begets exchange. Increased exchange causes increased manufacture and affords employment for a larger class. To sum up this matter concisely, then, increased productiveness of the soil begets increased productiveness in every other branch of labor. It is important then that every legitimate encouragement should be given by government to develop the great interests of agriculture. No one can deny that they are great—that they are imposing when rightly considered.

What encouagement has been given? Trade, commerce is protected by extensive navies, by appropriations for the preservation of the lives and property of those engaged in it. Manufactures are, (or have been), protected by tariffs. I shall not say these are not necessary, and so far as manufactures are concerned with the reciprocal regulations of other nations, I cannot say but protective tariffs are a direct benefit to agriculturists, for the increased productiveness of mechanical labor begets a corresponding activity and product among farmers. But what has been the character of the direct legislation for agriculture? A shrivelled sum to pay for seeds that we had better pay for ourselves if we want them—for seeds that are not only common among American farmers, but such as have been repudiated. It is true, there have been some valuable importations by the agricultural department of the patent office, but it is a serious question, if we have not been as much injured by the importation of foul seeds and worthless ones, together with some of the most villainous of insect scourges belonging to Europe, as we have been benefitted by the introduction of valuable ones. And then the distribution of books and seeds has become a power

ful political influence, and is used as such. All attempts to reform it on the part of those who have felt the effects of its ill-judged efforts have been met with no responding action. Their representations and prayers have been disregarded. How then are we to help ourselves? Why are we told of the glory and dignity of labor, of the conquests we have made, of the nobility of the sons of toil, *when votes are wanted*, and then when our wants are known in the hall of the House of Representatives, why are they disregarded? Why are we not represented in the assembly and senate? Why have we no representative in congress to look after our own interests. Our votes are essential, we are the people, the constituents, and yet our servants have no regard for our demands. Why? Why do we submit to this indifference? Why have we no men of our own class in high places, (save the mark) who will pay attention to and make effort to supply our demands? These are important questions to you, fellow farmer, and you should digest them well ere you give your vote in support of any representative, or supposed representative of your interests.

Place is sought for eagerly. Is it because men are interested to serve their fellows—because they are so modest as to believe there is not another man on the footstool that can do it quite as well as themselves? Gentlemen, I shall hail the day with joy when the people shall choose their own representative, and not succumb to the ruling of a clique of so-called politicians—"wire-workers," demagogues—who dictate to us through caucusses the choice we are to make, and decide for whom we shall "go in." I protest against such "popular sovereignty." It is cursing us—debasing all who mingle in the fight. Each candidate is made the target of envy and malice, of blackguardism and vulgarity. Each petty mistake or indiscretion of his past life is arrayed and magnified—others are invented and heralded. If he does not want to be traduced he must not consent to become a candidate for office. Every man expects it, and he who will descend lowest is the most successful politician. This is the class that control our caucusses, mete out and divide up the offices, and call upon the dear people to sanction and indorse their wisdom, by putting them in office. How many of these men have studied political economy? have a knowledge of the history and wants of the people they represent? Are your best men in office, either in town, county, state, or in the national council? No! Respectable men, such as regard their own moral reputation, will not resort to the means which must be used, with the present system of politics, to achieve success. The question asked is not as to fitness, but will he "shell out" the "available?"

The man who watches the working of governmental machinery—who does not mingle in the strife and excitement of political warfare—who listens to promises and watches for their fulfillment, (but in vain)—who studies the causes which crush those who least deserve it—those whose industry underlies all enterprises—on whose

shoulders rests the porpoise that supports the elephant that supports the globe, cannot help FEELING the cause oppressively. What is it? What is it that causes a failure of a crop? What that refuses to adopt an improvement? What that spurns a suggestion, no matter how meekly given? What that cowers before broadcloth—that meekly shrinks away when there is nothing to shrink from—that does homage to position, infinitely its inferior?

Gentlemen, I know there is manhood among farmers; I know there is independence; I know there is truth and real nobility of heart and mind. But added to this must be a love of the employment. There must be a faith established in its power to develop and employ, HONORABLY, all the faculties of the mind. It must be dignified with knowledge and stimulated with the hope of discovering new wonders, new problems to solve, new truths to develop—other and new causes for revering and loving the Creator. This is the want that has crippled us—that has always crippled and crushed nations—that has rendered the mass submissive to the few—that has fostered crime and driven to desperation those naturally qualified to become peers with the highest—this WANT OF KNOWLEDGE.

Your sons will not leave you when they are taught to respect and love the profession of a farmer; when they know how to estimate its importance, and realize the dignity and position it will give them to excel in it. A gentleman in England was walking over his farm with a friend, exhibiting his crops, herds of cattle and flocks of sheep, with all of which his friend was highly pleased, but with nothing so much as his splendid sheep. He had seen the same breed frequently before, but never such noble specimens, and with great earnestness he asked to know how he had succeeded in producing such flocks. The answer was, "*I take care of my lambs, sir!*" Bend the twig, and the tree will be bent. Educate your children for the profession they are to follow, and if they are naturally fitted for it, they will remain there. Teach your sons that there are other than political fields in which they may become distinguished and honored; and your daughters, that grace, beauty and poetry are found outside city drawing rooms, and they will stay with you.

Of what avail are seeds, if we know nothing of their character, or of the method of cultivation necessary to their reproduction. Government has commenced wrong. It gives us the problem to solve, but has given us no rule to regulate the solution—seeds to plant, but no directions for their culture. We ask for it, and are laughed at!

Schools are open alike to the merchant, mechanic and farmer. No one need be ignorant. True, and allow me to say, in justice to the class to whom and in whose behalf I am speaking, that there are few professions that embody more general intelligence than the farmer's. But we find law schools, medical, theological and normal schools, schools of design and experiment for the mechanic and artist,

but where are our agricultural schools? Where are the farmers' schools of design? The artist learns to mix colors, and searches into their chemical relations. So the mechanic studies natural laws which are to govern his every act and decide his success, but what do your farmer boys of fifteen or twenty years of age know of the properties of a plant, of the construction of soils, of the chemical action of manures, of the economical management of the soil, of drainage, or of the thousand facts necessary to be known ere he can successfully and profitably manage the "eighty acres" you have purchased for him to settle upon? What have you done to enlighten him? What can you do? Few men among the mass of farmers of the present, have the requisite knowledge, except such as may have been found in the agricultural periodicals, hence the youth that are rising upon our prairies must look otherwheres than to parental intelligence to enlighten them. Again I ask, what have you done to enlighten your children in the mysteries that belong to agricultural husbandry, or domestic housewifery; for I believe there is as much room for improvement in in-doors management, as—in the manufacture of butter, cheese and bread—as in the more responsible, but not more important duties that belong to the out-of-door life of the farmer. How many before me to-day can answer understandingly simple questions in agricultural or domestic economy, such as a thoughtful child would ask, who might witness a common operation in either of these departments, or talk intelligently of the laws involved in and which govern those operations. Let parents examine themselves, and arm themselves to give intelligent answers to the child. Encourage inquiry, and rest not until you have given a solution to these infantile problems. The benefit will be two-fold and direct. It will benefit yourself in the solving, and the child in the solution. We hear men complain that the son does not seem to get along much—has no *gumption*. How has he been educated? Whose fault is it that he is wanting in common sense, wanting in intelligence? Commence with his earliest childhood. How were you disturbed by his questions? How did he persist in plying them, notwithstanding all your repulses! Why did you not listen and answer? Ah! Why? What discipline did you adopt to give him self-reliance? Did you trust him with any commissions in which his judgment would become involved and exercised? Seldom. You thought for him, chose for him, acted for him. And right here, let me point out an error, which it seems to me, may be sought to be corrected. The *judgment* of children needs to be educated. I am not in favor of a more precocious development of self-reliance—for God knows, there are too many young bloods now in long clothes and with cigars—youths who ought not to have dropped the round-about for a dozen years at least. But I am in favor of *educating all the faculties*, and of commencing with the child to do it. Let the *books* and their *words* go, and teach *ideas*. True, you gave your son opportunities to acquire an education, but how

was that education suited to his wants—to the profession he was to follow for a livelihood? About as much as mathematics would fit a man to become an analytic chemist. His early years, those most impressible, when both body and mind are being developed, have been spent in study without demonstration, in storing up words with no knowledge of the ideas they represent. He remembers but cannot apply. He can look, but cannot see. He has eyes, but no vision. He has seen nature, but no God in it. Has witnessed the effect, but knows nothing of the cause. He cannot tell you why a rail fence is laid zig zag, or why roots do not grow above ground and branches below. He is early taught the a-b-abs of written language, but the book always open, God-given—to stimulate the love, and the higher nature of man, though exciting his wonder, though first to incite inquiry, he is kept carefully ignorant of. How ludicrous! How deplorable! How lamentable that we devote so much time in teaching children the signs of ideas, carefully keeping the ideas out of sight. What an education is this! Then do we complain of their ignorance, do we complain of their want of common sense? With what pride does the parent assure us the child knew the alphabet at an early age! He has the capacity to learn. He *sees* the written character, and constant repetition of its name has fixed it in his memory. He is as likely to call an old fashioned triangular harrow A, if seen on the green sod, with its green back ground, as the black outline in Webster's spelling book. Yet it is easier to learn him to *say* "*harrow*," when he sees it and feels it, and watches it work in the field, than to learn him that simple sound, "*a*" from the written character? Why? Because he can see and feel it. He also sees the lines it makes in the moist soil. It impresses him, and it requires but one lesson to enable him to remember "*harrow*" wherever he sees one. So the teacher of the present material age must teach from and of matter, and of the laws which govern it. He will be most successful who adopts this course to teach written language. But you were not educated so. True, but the teachers of your children should have this knowledge. What do your school commissioners, or inspectors, or directors insist are the qualifications of the teacher? That he can read, write, cypher and parse, and has a good moral character! Perhaps that he shall have a knowledge of algebra, geometry and French. Do they require him to have a knowledge of chemistry, of physiology, of botany, or of natural philosophy? Do they require that he shall know *how* to teach, and what to teach? Have you ever seen an Agricultural Chemistry in use in a common school as a text book? We know about every thing but ourselves, and the life, both animal and vegetable that surrounds us, and the laws which govern that life. Why is this? Please ponder upon that question. Is there no cause, then, why men who come in contact with the palsied blind men of agriculture, palsied and blinded by ignorance, should pray for the moving of the waters, and for the manufacture of clay ointment? Is it at all amazing that

those who would advance labor to its true position, and elevate the laborer to his proper altitude, should commence at the foundation, should earnestly desire and labor for the founding of a school system, or a system of study, which, while it does not neglect the moral education of the pupil, opens to him paths connected with his employment in life, that he may tread intelligently, and love to travel —at each step of which he may discover something new, something wonderfully beautiful to him, because he can see the design of the Creator in it, and comprehend His benevolent purposes. God speaks to him through matter. Life, eternal life, gilds the horizon of his view, and he becomes better as he becomes more enlightened. It is not true that we become more egotistic as our knowledge increases. Egotism is not the result of a good education, but humility is. Dignity, conscious power, is the result of knowledge, but the result of that consciousness is not egotism.

My friends, I have talked to you in this manner because I believe you, in common with myself, should feel the importance of a change of tactics on our part, if we would assume the position as men that the character of our employment naturally gives us. You cannot have failed to see the drift of my desires in this matter. We need a specific education. To obtain it we need to act ourselves, introduce text books and teachers into our common schools, that shall teach our children something beside the multiplication table, and how to parse nouns and verbs, something that shall qualify them to remain at home, and afford them contentment and position there. We need also EDUCATED TEACHERS. Government should assist us to educate them. We must ask government to do it. But we must not forget that a *demand* for text books and teachers, adapted to the wants of the farmer, will *create* a supply. The time is not far distant when this demand will be made, I trust. We must demand the recognizance of our rights by our respresentatives. Morrill's bill passed the House, at the last session of Congress, but the perils of "popular sovereignty," and the struggles of political partisans strangled it in the Senate. It has never since been heard of, that I am aware. Some States are recognizing the rights we claim, but Illinois thus far, though liberal in its support of a school system, asks the General Government for a landed endowment for an Agricultural School—or more properly, an Industrial School. This is proper, inasmuch as she embraces in her asking a like endowment for her sister States. I am proud to know that such a project had its origin in Illinois. I should be proud if an Illinois statesman should become her standard bearer in this great project, and the instrument of promoting her interests. I believe there have been and are men in our own State, who would gladly represent us in this matter, were our wishes made known. But we are silent, as a mass. We must speak, and I repeat it, we shall be heard. We cannot depend upon politicians to move for us, unless we first make a noise. As a class, they but echo what they think will meet our favor and build

themselves up. Our policy is apparent. If we would have anything, we must ask for it, loudly and persistingly. If we are not listened to and obeyed, we must send men to Congress that *will* do our bidding.

I hold in my hand a small piece of the Atlantic cable. You know its history, and the cause of its triumph—the perseverance of a man who believed the thing practicable. You have also read of the construction of an apparatus by Everett, for the paying out of this cable. All parties give to him the credit of having contributed, materially, to the success of the last trial. Indeed, FIELD has said, "to him, more than any other *one* man, is the honor of success due." Field spoke abstractly and modestly.

But what of Everett's history? He was a farmer's boy. His father died, and he was apprenticed to a blacksmith. Neither the farmer's life or blacksmithing suited him. He ran away—first to New York, and thence to Philadelphia. Still he was restive. When Harrison was elected, (I believe), he left Philadelphia, and was present at the inauguration. Subsequently a reception was given by the president to some of the more prominent claimants for office. Everett, without papers or recommendation, managed to be present at this reception, although semi-private, and pushed himself forward into the front of the notables present. He attracted the attention of the president. "Well, young man, what do you want?" "I want a place in the navy, sir."

The manner and tone of this answer interested the president still more, and after questioning him closely, he gave him a card, admitting him to the navy yard, saying, "Go and see what you can do there." He found the place that suited him, went on important expeditions as engineer, served during the Mexican war in the Gulf squadron, and has now connected his name with one of the greatest achievements of modern times. What are we to learn from this? Simply, that when we offer the same inducements to our Everetts to rise as farmers, they will stay in the profession. I was furnished with this history of this man by a friend of his who has known him from boyhood. What is it that has given him fame? Not that his invention is so marvelous—not that he is possessed of more ingenuity than thousands of men, but the circumstances that caused the exercise of his talent. Years ago, Judge Douglas, by his efforts, his persevering efforts in congress, done more than any other one man to develop the resources of our own fair State. Not because of his greatness or superior wisdom, but he foresaw fame, wealth and position for himself in the success of his efforts. Who is to be the man, then, who shall work out a system, a national, industrial system of education, and secure an endowment worthy our age and its object. Circumstances make great men. Who will be moulded by this want of the present, and by serving the people, to a colossal stature?

When I talk of a specific education, I do not wish to be understood as advocating that kind described by Shakspeare, when he

says, "He doth nothing but talk of his horse; and he makes it a great appropriation to his own good parts that he can shoe him himself." We have brains enough now that "will endure but one scumming!" The education I advocate, as necessary for the farmer, will not only prepare him for the physical duties incident to farm life, but give a noble and comprehensive cast to his mind. Colton says, "a great mind may change its objects, but cannot relinquish them; it must have something to pursue," and if the farmer receives the education appropriate to his sphere, he will be at no loss for objects to occupy his thoughts—to excite all the highest and best impulses of his nature. I believe this education the foundation necessary to be laid before we can rear a superstructure we can point to with any degree of pride. Let us commence it—insist that it shall be adapted to our wants, and remember what Horace says: "Unless your cask is perfectly clean, whatever you pour into it turns sour."

GREENE COUNTY.

Herewith is presented a report of the proceedings of the Greene County Agricultural and Mechanical Society, for the years 1857 and 1858, with a list of the officers elect for the year 1859:

1857—Geo. L. Burrup, President; Benjamin Roodhouse, David A. Thompson, Merrill S. Ballinger, Elon Eldred, Wm. H. Ellis, Vice-Presidents; Lucius S. Norton, Secretary; Clinton Armstrong, Assistant Secretary; Jordan Howard, Treasurer.

Fair held in Carrollton 10th and 11th September, 1857. One hundred and fifty premiums were awarded.

Cash on hand	$404 20
Cash from State Treasury	100 00
Receipts from Fair	833 85
	1,338 05
Paid for improving Grounds and Premiums	892 86
Balance	445 19

1858—Joseph F. Ballinger, President; Benjamin Roodhouse, Jacob Bowman, Samuel Armstrong, Elon Eldred, Thomas Black, Vice-Presidents; Clinton Armstrong, Secretary; Lyman F. Wheeler, Assistant Secretary; Jordon Howard, Treasurer.

Amount on hand		$445 19
Received from State Treasurer		100 00
Receipts of Fair 1858		1,070 15
		1,615 34
Amount paid for Secretaries	$75 00	
" " Improvement of Grounds	341 25	
" " Incidentals and Building	208 85	
" " for Premium List	698 16	
		1,323 29
Balance in Treasury		292 05

1859.—Sixth annual meeting was held at Carrollton, Dec. 6th, 1858, when the following officers were elected for the year 1859, viz: Jacob F. Ballinger, President; Jacob Bowman, James H. Vanarsdale, Samuel Armstrong, Hiram Ellis, Anthony Potts, Vice-Presidents; Lyman F. Wheeler, Secretary; Richard B. Hill, Assistant Secretary; Jordan Howard, Treasurer.

We own our Fair Grounds, worth	$2,500
Upon which we have expended in Inclosure, Buildings, Cattle Stalls, &c., about	1,500
Total	4,000

L. F. WHEELER, *Secretary.*

GRUNDY COUNTY.

Herewith is presented a history of the Grundy County Agricultural Society, for 1858, and such other matter in the way of statistics as I think will read well and be of interest to the readers of the third volume of the Transactions.

Grundy county organized an Agricultural Society in 1853, but from various causes—not the least of which was want of numbers—our county being very sparsely inhabited at the time—it has been a struggle between life and death ever since its organization.

On the 6th day of March, 1858, about thirty voters met at the court house in Morris, and organized the "Grundy County Agricultural and Horticultural Society"—adopted a constitution and elected the following officers, who, by the provisions of the constitution, are a "Board of Managers," with powers to transact all the business of the Society: B. H. Streeter, Esq., was elected President; Theron Collins and Wm. White, Vice Presidents; N. B. Dodson, Secretary, and L. P. Lott, Treasurer.

The first steps of the new board were to comply with the requirements necessary to the incorporation of the Society. The board then went to work with a will, first, to ascertain what amount could be raised by subscription; and meeting with great encouragement, considering the hard times, they proceeded to secure grounds suitable for the uses of the Society; and in the selection and terms they have been very fortunate indeed: having secured, for the term of twenty years, at an annual rental of ten dollars, a most desirable piece of ground, containing thirty-two acres, situated just without the corporate limits of the city of Morris, distant one mile from the court house, and about half a mile from the depot of the Chicago and Rock Island Railroad. The shape of the ground is nearly an oblong square, situated from east to west. The west half, a high table prairie, interspersed with groves and beautiful

young trees, and on which is the track, of half a mile in length, well worked and graded. The east half is divided about the middle by a small stream of living water, the banks of which are thickly lined with fine, thrifty timber, of all ages, from the sturdy oak and elm of a hundred years' growth, down to the lythe and graceful ash and hickory, whose age dates not back of the present decade. From the creek, eastward, the ground rises gradually and gracefully, till within about twelve rods of the east line, leaving a fine plateau sufficiently elevated to command a good view of the whole grounds, and on which is erected Floral Hall, a good building, 30 by 50 feet. The ticket and business office, 9 by 16 feet, and the main entrance gate are also on this elevation. There is erected near the track seats sufficient for six hundred persons. Stalls and pens for all kinds of stock in abundance. The underbrush cut and burned and the trees, large and small, nicely trimed up, and the whole surrounded by a tight board fence seven feet high.

Those who are well posted say that it is the most beautiful and the best arranged county fair ground in the State. The board will not argue the point, but they do feel proud of their grounds, and will feel prouder still if, at some future day, sufficient inducements can be offered to warrant the Illinois State Agricultural Society in holding one fair within said grounds.

The first annual fair of the Society was held on the 12th, 13th, 14th and 15th of October. The first day it rained hard all day, besides being very cold for the season. The second day was a little more propitious, and the third and fourth were glorious days, and notwithstanding the lateness of the season, the unfavorable year, and the bad beginning, the fair was a complete success in every particular—the entries of animals and articles reaching the large number of 580, and the receipts for the four days amounted to $665, which pays the premiums and expenses of the fair, clears the Society of debt, and leaves about $100 in the treasury. The premiums awarded amounted to $393, about $50 of which was paid in books, selected with great care and so classified as to be of real value to those who would be likely to get them. The premiums offered amounted to near $600, but from the lateness of the season and perhaps a little want of faith in the success of the enterprise, in several classes on which premiums were offered, there was little or no competition.

The total receipts of cash, since the 1st of June, amounts to the snug little sum of $1,854 22, and all the outside help we have had is $100, received from the treasurer of State—in addition to this there has been donated to the Society, in labor, about $200, making a total outlay in five months of about $1,950.

If any county in this state has surpassed "Little Grundy" in agricultural interest during the hard year of 1858, please inform us who and where it is, that we may extend the right hand of fellowship for a better acquaintance.

Grundy county is bounded on the east by Will; on the west by La Salle; on the north by Kendall, and on the south by Livingston counties; contains twelve congressional townships, being twenty-four miles from north to south and eighteen miles from east to west. The Illinois river passes through the county, running nearly west, leaving about two-thirds of the county on the south side. The Mazon river enters the county near the south-east corner in two branches, which soon after unite and empty into the Illinois immediately opposite Morris. Waupecan creek traverses the western portion of the county, running nearly north, and empties into the Illinois about four miles below Morris. The Aux Sable, a beautiful stream, enters the county near the north-east corner and joins the Illinois six miles above Morris. Nettle creek, a fine stream, takes its rise near the north-west corner of the county and meanders towards Morris, just before reaching which, it is joined by Nettle creek, junior, a beautiful little brook of Grundy birth and which waters our fair grounds, when they also pass into the Illinois. The banks of all of the above named streams are well timbered, yielding abundantly all the valuable varieties indigenous to the west, and it can be safely said in truth of Grundy county that it is well watered and well timbered, probably unsurpassed in these respects by any county in the Prairie State. Next comes our coal mines, of which I am unable to give you a very definite description, but hope to be able to obtain some statistics before forwarding. The quality is certainly unsurpassed by any as yet discovered in the west. Of the quantity, suffice it to say that it is inexhaustible—underlying as it does from one-half to two-thirds of the county and in strata varying from eighteen inches to eight feet. It is also remarkably easy of access, of which you can judge somewhat by the fact of its being delivered at our doors for three dollars per ton. This, with the facilities possessed for shipping at all seasons, enables Morris coal to successfully compete with all other.

Morris is the county seat of Grundy county, and is the only town or city of any importance in the county; is situated on the north bank of the Illinois river; distant from Chicago sixty miles and from La Salle (the head of navigation on the Illinois river) forty miles; contains a population of about 3,500 as enterprising inhabitants as can be found in any town or city of its size in the Union. In proof of which we point to our public improvements. Instance our churches, four in number; our public school houses and schools, public and private; a bridge spanning the Illinois, costing $47,000; our court house, the handsomest one in the State, costing about $27,000; our fair grounds, our hotels, warehouses, stores, etc,, etc. The Illinois and Michigan Canal (of which every Illinoisan is or ought to be justly proud) passes in front of our young city, and the Chicago and Rock Island Railroad at what

used to be "back of town" but is now quite central. We have a fine steam flouring mill, six large warehouses, three hotels, three lumber yards, one steam foundry and machine shop, two plow and carriage manufactories, one of which is quite an extensive establishment, driven by steam with a planing mill attached; and I do not hesitate to assert that there is more grain bought and more goods sold in the city of Morris than in any place of its size in the State.

The only other towns in the county are Gardner, Minooka, Mazon, Goose Lake and Dresden. Gardner is situated on the Chicago, Alton and St. Louis Railroad, near the south-east corner of the county, is quite a flourishing little town, containing about 200 inhabitants. Minooka, about ten miles east of Morris, on the C. & R. I. R. R., population some 150. Mazon, twelve miles south, on the Mazon river, a small place, in the best farming district in the county, but has been surpassed and supplanted by its railroad rival, Gardner. Goose Lake proper is a large inland lake near the east line of the county and south some four miles from the Illinois river, is famous as a place of resort for duck shooting, for the quantity and quality of stonecoal around and beneath it, and, above all, for potters' clay, which is found in abundance and of a quality superior to any as yet discovered west of Massachusetts. On the borders of this lake is the famous "Goose Lake Steam Pottery" of Messrs. Wm. White & Co., established about two years ago, since which time they have invested about $30,000, and are doing a very large business, giving constant employment to from forty to sixty men, manufacturing large quantities of the usual kinds of stone ware, besides supplying Chicago with immense quantities of water and sewerage pipe. Mr. White has successfully introduced a new and economical feature in the manufacture of pottery, viz: the use of coal for fuel. The success of his experiments is of the highest importance not only to himself but to all who are engaged in the business. Mr. White is a gentleman of enlarged views and possessed of means sufficient to carry them out, and his advent among us is of the highest importance, opening up as he has a source of wealth of which we remained ignorant. There has quite a village sprung up around the pottery, composed mostly of the employees and their families, which is called Goose Lake.

Grundy county, although surrounded by old and populous counties, is comparatively a "new country," containing, in 1850, only 3,023 inhabitants; but since about that time the increase in population and improvement, in every respect, has been very rapid. When asked why it is that a district possessing so many advantages should remain so long comparatively uninhabited, we answer that in some way the Illinois and Michigan Canal Company possessed themselves of a great portion of Grundy county, and the trustees, having a just appreciation of the value of those lands, they affixed a price to them commensurate to their value, but which was

thought to be exorbitant, by those wishing to purchase, until their resources began to be developed, when all at once there was not land enough in Grundy to supply the demand. But this is all past now, the canal company not owning, probably, a section of land in the county. Henceforth Grundy county will march on with rapid strides, and ere long distance, in point of population, many of its now exulting neighbors.

Amount of grain shipped from Morris during the year 1857:

Corn	575,446	bushels.
Wheat	63,862	"
Rye	4,300	"
Oats	37,376	"
Barley	2,290	"
Timothy seed	17,160	"
Total	700,434	"

Amount of grain shipped from Morris, for eight months of the year 1858, viz: from January 1st to November 1st:

Corn	502,689	bushels.
Wheat	36,172	"
Rye	7,464	"
Oats	19,042	"
Barley	1,951	"
Timothy seed	17,276	"
Total for eight months	584,594	"

MORRIS STEAM MILLS.

Business done for eight months of the year 1858:

Amount of Wheat purchased	40,300	bushels.
" Corn " for grinding	3,000	"
" Buckwheat " "	4,000	"
" Rye " "	2,850	"
Total	50,150	"
Number bbls. Flour sold	8,532	

Our mills do a large amount of custom work, in addition to the above.

LUMBER.

Amount of lumber sold in Morris, for the year 1857:

Lumber	3,785,464	feet.
Shingles	1,647,250	M.
Lath	764,885	M.

Amount of lumber sold in Morris, for eight months of the year 1858:

Lumber	2,406,052	feet.
Shingles	1,139,500	M.
Lath	451,075	M.

In addition to the above figures on lumber, we have five saw mills (three steam mills and two water power), within four miles of Morris, doing a large business in hardwood, lumber, ties, posts, &c., &c.

COAL.

I am unable to obtain the exact amount of coal raised at any one mine; but, from the best information I can get, I am of the opinion that forty thousand tons of coal were raised in Grundy county in each of the years 1856 and 1857. The business of 1858 will show quite a falling off in this branch of trade, as well as in all others:

Amount of Coal shipped by railroad in 1857.....9,008 tons.
" " " " eight months of 1858.....2,728 "

This is only *one* of the many outlets. In addition to the amount shipped by canal and home consumption, the country blacksmiths, almost universally within twenty miles, and in some cases forty miles, of Morris, come here for their coal. There are some ten mines in operation in the county, which, in prosperous times, gave employment to a great many men, and yielded a large per centage on the investments, and, with a return of "good times," we expect very advantageous results from this source.

Fearing that my report has already exceeded the limits, I will close.

Your obedient servant,

N. B. DODSON,
Sec. Grundy Co. Ag. and Hort. So.

HANCOCK COUNTY.

Officers for 1859:

President—Melgar Couchman, Carthage.

Vice-Presidents—Robert F. Smith, Monte Bello; John R. Tull, Pontoosuc; O. K. Hawley, Augusta.

Treasurer—Benjamin Clark, Carthage.

Secretary—Geo. W. Batchelder, Carthage.

Managers—Roger Ireland, Augusta; P. A. Barker, Wilcox; J. H. Lawton, St. Mary's; S. L. Weston, Rocky Run; Thos. Geddes, F. Green; Wm. Smith, LaHarpe; G. W. Yates, Durham; E. Rand, Prairie; J. M'Auley, Appanooce; Wm. Tyner, Pilot Grove; Chas. Abbott, Rock Creek; C. Winston, Carthage; I. N. Benner, Harmony; Peter Pau, St. Albans; H. P. Harper, Hancock; L. P. Prentiss, Nauvoo; E. G. Luce, Sonora; Cyrus Felt, Monte Bello; John Harris, Bear Creek; Cyrus D. Smith, Walker; W. S. Hathaway, Warsaw; John S. Johnson, Wythe; J. Lionberger, Pontoosuc.

The fourth annual fair of the Hancock County Agricultural Society was held at Carthage on the 22d, 23d and 24th Sept., 1858. The entries and attendance were as large as could reasonably be expected. The pressure of the times had its influence on both. The fair was generally satisfactory.

This Society was organized. June 10, 1852, and has held four annual fairs, with a continued increase of interest. We have twenty acres of land, and expect to be able to erect substantial buildings thereon next season.

The value of personal property in this county, for 1858, is.....$1,583,049
The value of real estate..... 7,856,164

SCHOOLS.

There are 192 school districts in this county, and in these are kept 206 schools. The whole number of scholars in attendance is 7,896. Whole amount of moneys expended for school purposes, $36,728 11.

GEO. W. BATCHELDER,
Sec. Hancock Ag. So.

JASPER COUNTY.

The Jasper County Agricultural Society was organized on the 3d of April, 1858. The Society elected the following officers, who were to hold their offices, respectively, until the first annual meeting, which was fixed by the constitution to be held on the first Saturday in April of each year:

President—W. H. Webb.
Secretary—W. P. Prather.
Treasurer—S. R. Hay.
Executive Committee—Hon. M. O'Kean, Wm. S. Lea, A. Ward, Norman Comstock, John Hatterman, S. B. Todd, Joseph Picqet, Samuel King, G. B. Cather, John W. Honey, James Z. Crews, A. M. Eagleton, Wm. Shup, W. H. Webb, S. R. Hay and W. P. Prather.

The first annual fair was held at Newton, October 6th, 7th and 8th, 1858. The weather on the first day was very unfavorable, being rainy. The second and third days, the weather proving fair, the attendance was large as could be expected for the first fair in the county. The display of articles was pretty extensive. There were many fine horses, cattle, swine and sheep exhibited, with several coops of fowls of the best varieties.

The large number of ladies in attendance, with the various samples of domestic and fancy work, by them exhibited, proved in the strongest terms the great interest felt in promoting and sustaining the agricultural interests of our county. As a first effort it was very good, and in some departments it would compare favorably with older and better settled counties in the state.

The amount of money awarded in premiums this year was $100. The other expenses were exactly $300, which has been paid; and it is gratifying to state that at the end of the first year the Society will not owe a dollar.

We have our fair grounds inclosed by a plank fence, seven feet high, and suitable sheds and stalls for the accommodation of future exhibitions for several years. Although not one-fifth of our citizens took that interest in the affairs of the Society that was desired, yet I consider the Society established upon a permanent basis, and that it has a bright future before it; and we hope in a few years that our Society will be behind none in exerting a useful influence. That its prosperity may equal our hopes is the sincere wish of one who has labored in its cause, believing that he was promoting the best interests of his country.

W. H. WEBB, *President.*

KANE COUNTY.

Officers for 1858:

President—Wm. P. West.
Secretary—Silas W. Curtis.
Treasurer—Geo. W. Waite.

The annual fair for 1858 was held in September. The interest of the people of the county in their fairs is increasing. Considering the times, the entries were numerous and the receipts good. County fairs are an institution of our state, and wherever they are best sustained, there agriculture best flourishes, as well as every other industrial pursuit. The entries of thorough-bred cattle, Durhams and Devons, were numerous. There was a fine exhibition of grade cattle. Thorough-bred horses, match carriage horses, single carriage horses and work horses, in large numbers, were on exhibition. The competition in sheep was great. Hogs and poultry were fairly represented. Agricultural implements, products of the garden, orchard and dairy, were numerous. D. W. Annes received the first premium for the best cultivated farm. Of this farm, the Committee say that "it contains 375 acres of land, desirably located with reference to timber and prairie. Buildings ample. A ridge or water shed runs through the farm from east to west, sufficiently high to throw off the water and leave the land in good order for cultivation. The whole farm is well fenced, and the whole worked with great care and diligence. The farm is well watered, and in a high state of cultivation."

E. S. Morrell was awarded the first premium for raising 122 bushels of corn on an acre of land; and E. R. Humphrey the second premium for raising 100 bushels on the acre. The number and excellence of the articles in the ladies' department of needle work, rendered the duties of the awarding committee, in that department, very difficult. There were many miscellaneous articles of great merit. Premiums were awarded for the syrup of Chinese sugar cane, which were considered very fine specimens.

There were eleven entries of matched horses and single trotting and pacing horses. They were tried against time. The following is the time made:

Buggy, Jones, trotting horse	2:53
Sulky, Updike, trotting	2:55
Top buggy, W. P. West, pair horses	3:12
Open buggy, Minard, pair horses	3:42
Sulky, R. G. Curtis, racking	2:58
Wagon, M. P. Houck, racking	3:30
Wagon, A. B. Johnson, racking	3:35
Saddle, Hines & Tisdale, trotting	3:29½
Saddle, J. B. Johnson, trotting	3:31

S. W. CURTIS, *Secretary.*

KENDALL COUNTY.

Officers for 1858:

President—Daniel Haigh.
Vice Presidents—O. C. Johnson, S. A. Tenny.
Secretary—Elijah W. Barnes.
Corresponding Secretary—Wm. Greenwood.
Treasurer—Wm. Thurber.

The fair of this county for 1858, took place on the 12th, 13th and 14th October. All the departments were well filled, which made this exhibition by far the best the society has ever made. We do not hesitate to say that Kendall county can present a fair competition to any county in the State in articles of agriculture and manufactures.

The gathering of the people was large, and none went away disappointed in the exhibition—unless it was that it far exceeded what was anticipated.

Near the close of the fair Hon. M. L. Dunlap delivered an address to the people, which riveted the attention of all who heard it.

ADDRESS, BY M. L. DUNLAP,

BEFORE THE KENDALL COUNTY AGRICULTURAL SOCIETY, OCTOBER 12, 13 AND 14, 1858.

Ladies and Gentlemen:

Winter has given place to spring; the spring is past and gone; the summer has shed its heats and passed away, and now autumn, with its many hues of ripened glory, is shedding its dream-like fullness of golden richness on swelling prairie, wood-crowned hill and murmuring river. The frost has covered the footstalks of the leafy covering of the forest, the orchard and the lawn, and their summer hues of lovely green are now embrowned and made the sport and play of the autumn wind. The morning sun is enshrouded in mists which go up from yonder river, and reflected from the fields by an airy covering—the gauze mantle which King Frost first spreads over his

domain before he wraps them in the embrace of winter. But there is no season so full of jubilant thought and thankful feeling as autumn. Its mellow hues, full of the bounties of the year, are presented on every hand. The field, the barn and the cellar are teeming with the products for which winter crumbled down the soil and disintegrated its elements of fertility. It was for this that the showers of spring swelled the bud, and made the germs shoot forth, that bade the flowers open out into beauty, to please the eye and give us promise of plenty. It was for this the summer's sun glowed with a more ardent heat, to fuse the silica and potash to liquid glass, wherewith to coat the slender stalks of Cerealia, that they might give the autumn the golden grain. It was for this that the long summer days were devoted to the manufacture of starch, of gluten, of sugar and of gum, that the autumn might gather up ample stores for the year. It was for this that Pomona rounded up the orb-like apple, simmered down the cruder juice of the fruits, to please the taste. It was for this the sun penciled up their outer rind with pictures outvieing the painter's brush—to please the eye of the laborer, and give him rich return for his toil. It is the season when the harvest home is sung with joyous thought; when the husbandman can return his thanks to the Most High, for the care He has exercised over him through the varied changes of the year. Autumn, so full of goodness, so full of gladness, so garnered up with the products of sunbrowned toil—so rich in contentment, so rich in the love of home, around which the leaves play their whirls of eddying mirth, or gently fall from their loosened footstalks, like ripened humanity, sinking to its bed of rest—to both the spring shall again return, the one to refill the same round of duties, while the other shall pass to a higher and more glorious sphere. Thus to autumn have we many reasons to be grateful, and to bow down with thankfulness for its many bounties, as the harbinger and *avant courier* of that great future.

Ceres, Pomona and Flora! thou Mythological Goddesses! how oft have we endowed thee with seeming attributes of wondrous power! We have watched to see thee kiss the leaflets of the waving grain—to see thee round up the fruits and to paint the rainbow's hues on the petals of the flowers. We have examined the arcana of nature—have solved the atoms that thou dost use in the structure of vegetation—the scintillations of light from which thou dost abstract the colors of thy pallet, but thy corporal presence is hidden in mystery, and we sometimes doubt thy existence.

For a moment let us turn our attention to the past. Let us look back into the misty ages of by-gone years, when this great sweep of prairie lay beneath the surging billows of the mighty ocean, where drifted, lay on its wave-washed bed the products of antediluvian forests, now changed to coal, and covered by the waves of diluvian drift, as the ocean left its bed, and where the vast stretches of prairie first felt the genial influence and drank in the heats of the summer sun. Ages upon ages have intervened—the rocky

crust has crumbled into soil—the granite rocks have yielded their stores of potash and silica—the limestone has given up its elements of fertility—the water courses have carved their way, like great dead furrows to drain the land, leaving to us a soil unsurpassed in all the essential elements of vegetable nutrition—a country adapted to the wants of man, with a climate composed of the laughing zephyrs of the south—the health-giving breezes of the north—the moisture-laden winds of the east, and the ripening breath of the west. With all this wealth of soil and climate, may we not carve out homes of which we may well be proud—homes of beauty and happy contentment, around which shall cluster the deep affections of youth and the love of more mature age. But allow me ask you if the love of show—the ambition to lord it over quarter sections and sections innumerable—to be great farmers—to feast your eyes with the golden glories of broad acres and great herds, has not lessened your love of home?—if it has not left your dwellings exposed to the glare of the noonday sun?—if it has not cheated your children out of the leafy canopy that should shelter them from the fierce heats when the dog star rages and the air is all aglow with solar fire?

It is natural for us who were born and bred on a more sterile and unyielding soil, to be enraptured with the rich prairies that lay in all their beauty before us, and we may well be excused from a desire to own not only what we can cultivate, but a large share of the adjoining land. But when this desire has the effect to make us slaves to our ambition, to almost desolate our homes, or at least make them cease to be attractive, it then becomes our duty to part with our surplus acres to those who would make neighbors, and thus increase the social bonds of life, and give us the means and the time to plant trees, to make pleasant walks and arbors, to surround our home with the useful and beautiful.

This broad sweep of land was but yesterday in the hands of the "*Illini*," who roamed over it without noting its hidden wealth and power to produce them food. They could not unlock its cereal treasures, nor make themselves stately and happy homes, from which gaunt famine could be driven at will. Exposed to the dews and winds of heaven, decimated by haggard famine, they have sunk one by one, until no remnant of their tribe is left to point out the place of their last council fire.

They too, like us, were lovers of the beautiful prairie, with its line of stately forest, skirting the streams and the sylvan groves that lay in modest beauty upon its ample sweep, and like the great farmer, would permit no neighbor to divide with them the broad acres that they could not use. In this they have left us one lesson that we may well heed, which is, simply, that to the ownership of soil should be added a desire and ability to cultivate it, so as not to impair its riches, that it be made to yield its bounties and its blessings, for there are none so poor as those who are land-poor—they are like the man at sea alone in his stately ship, filled with bags of

gold, but without food, and who, amid the riches of his golden treasures, must sink under the gnawing pangs of hunger.

We have now made each other's acquaintance, and a mutual confidence, I trust, has been established between us. I will, therefore, offer you my hand, that we may make together the circuit of your show-grounds, to examine the products of your teeming acres —the mechanical ingenuity of your shops—the articles of domestic use, of ornament and of beauty. You have been so accustomed to the beautiful slopes of La Belle Fox, that I almost fear you cease to admire their varying outline, whether studded with graceful gems of forest beauty, or revealing the open prairie, waving with ripened grain. This spot, selected as the Mecca of your rural worship, possesses for me superior attractions. Just down in yonder valley is a thread of silver, like a bright gem in the grey setting of the autumn landscape; it goes purling and murmuring and kissing the shores with a gentleness that almost lulls one to sleep; yet when its gentle march is impeded, it dashes madly forward; but its force is chastened and put to use by the hand of genius.

The Indian, when driving his light canoe over its glistening surface, little thought its placid flow of water would be compelled to crush the corn beneath ponderous pestles in the white man's mortar, and his astonishment would be beyond bounds were he to come within this inclosure and see the various products of your toil; he would think there was some enchantment—that he had passed the river of time, and that he was inside the great hunting ground which is to be the reward of all his toil.

But we cannot stop to moralize longer, for we are at the building that now groans beneath the loads of farm products and other articles of useful labor. First we come in contact with the Squash family, having within its social circle a great variety, well adapted to our various tastes. Cousin Pumpkin has on his holiday coat, ready to be offered up to appease the appetite of the votaries of "Thanksgiving." Sweet Potatoes make a large display, giving ample evidence of rich soil and sunny skies. Among those shown the Early Nanesmond will prove the most valuable for this part of the State, from its vigor and early maturity. You can plant them any time during the months of May and June, with good assurance of a fair crop. I am glad to see you have so high a regard for them. You will find them a pleasant and healthful food, but allow me to whisper in your ear that they should be planted in large hills, and that the vines should be cut from the hills on the morning of the first frost, before the sun has blackened their leaves. Of Irish Potatoes you also make a large display, and among the varieties, new and old, are some of high merit. Here is a basket of "Round Pink Eyes," planted upon clover soil, yielding four hundred and fifty bushels per acre. A *clover sod!* what a patten of fertility! what a talismanic charm does it contain! it is the hidden wand that will unlock the fertility of your matchless acres. The Round Pink Eye is a fine grower, but I will betray its secret

—its flesh is yellow, and no yellow fleshed potato ever yet pleased the careful housewife. Give us the white, starchy tuber with which to flank the rich roast from yonder Durham, or the fish that sport in your favorite river. Onions, beets, carrots, turnips, parsnips, beans and celery fill up the ample space allotted to this department. It is not my purpose to laud your efforts, but I will simply say that the farmers of famed Egypt failed to make more than a tithe of the show in this department at the late State Fair. You have done yourself no great credit in the display of grains and seeds, at which allow me to express a surprise. Small lots of spring wheat, oats, barley, Hungarian grass and timothy seed is all that I can find. I shall believe the charge true, that your soil and climate is not well adapted to the growth of winter wheat. We next come to the department of Pomona and Flora. The vernal frost entered the list against Pomona, and she yielded to the chilling shock. A few specimens that our friend Pope wrung from the hands of his frostship are here displayed in company with those who had their home more under the direct influence of the southern sun. But Flora is more fortunate, when aided by such warm friends as Ellsworth & Co. and Galusha, who have presented such fine specimens of dahlias, pansies, roses, etc. Here, half hid among these gems of floral beauty, is a display of tiny bottles filled with flower seeds, numbering twenty-four varieties, which will make beautiful the home of our young friend Miss Susannah Minkler, who will have a due regard for their respective wants. We must now begin to elbow our way among the more valuable products of the dairy, and offerings of our female friends. The display of butter and cheese is what we might expect from the rich pastures of the Fox River Valley, and had it been sent to the State Fair would have been pointed to as ample proof that there was not only a Goshen but a Hamburg somewhere on the wide sweep of prairie that forms the boast of our State. These tables are very properly flanked with specimens of nursery trees from our friend Galusha. Just look at the symmetry and thrift of those apple, evergreen and other trees, and ask yourself if any "TREE PEDDLER" will again have your ear—if you will ever again be seduced by the show of fancy pictures of some pomological myth, to purchase whips instead of trees.

I would like to call your attention to the great value of those silver leaf maples, to be grown for shade and timber; nor will I forget to urge the value of that European larch, whose rapid growth and durable keeping qualities will yet make it rank high among the forest trees that are yet to wave in triumph on our wide spread prairies. Minkler also comes to the rescue, and presents evidence beyond dispute that the prairie soil is the proper soil in which to grow the trees for the prairie orchards.

Our next investigation is among the jellies, preserves and honey, of which there is a large display. The honey-bee has been industrious in gathering his winter stores from the ample fields of white

clover. He must have been thankful for the new house which his careful friend "Phelps" has presented for his comfort, and will doubtless well repay him for the outlay. Wine! yes, here is native wine from the cherry, the currant and the native grape—wine that would put to blush the semi-drug and semi-whisky products of our shops. Next to the pyramids of golden butter stands the ample loaf and snowy biscuit, proud monuments to the abilities and care of the wives and daughters of the hardy tillers of the soil. Now we come to wool carpets, rag carpets, rugs, lamp mats, and everywhere hung up, folded up, are bed spreads, quilts and comforts enough to make the winter king pale his face and yield up a part of his frosty breath before such genial influences.

But here is a group presenting rare artistic merit, from the hand of Mrs. G. H. Steward. Seven pictures, painted on glass, inclosed in frames of leather work, with boxes and baskets to match, and beside them are specimens of equal merit from the hand of Mrs. H. B. Henning, comprising four Grecian and two oriental landscapes, in leather work frames, to which is added a leather work box. A box of wax fruit and one of wax flowers, by Mrs. Sherwin, is so well done that I fear in the present scarcity of fruit it may be stolen by some fruit-loving person, and the counterfeit be not discovered until too late, when the doctor, with his stomach-pump, will be called in to recover wax presentiment. Daguerreotypes and photographs of surpassing excellence are displayed in no stinted numbers. Among these works of art are bird cages, but the tiny warblers are silent, nor will they sing until again within the sacred precincts of the family circle. We must move to the next table, where stocking yarn, embroidery of all patterns, kinds and qualities, lamp mats, shirts and dresses are abundantly displayed. A dash churn with a new attachment—not a new attachment of sweet sixteen, with both hands hold of the dash, but a cold iron attachment of wheel and crank, to be propelled by dog or horse. A corn planter, more ingenious than useful; several sets of excellent harness, in front of which stands Adams' corn sheller, which is receiving so many commendations from our corn growing farmers. While on the subject of corn, I must not omit the piles of golden ears that are filled in where space is found, both on and under the tables. One specimen from Mr. William Thurber is well worthy of note, for the large size and ripeness of the ears; nor is this all for which it should attract more of our attention. Part of it was taken from a lot of 28 rods, which produced at the rate of 137 bushels of 70 pounds per bushel to the acre; and some of it, from another part of a field of five acres, bearing the average of the field, forty rods of which was husked, producing at the rate of 124 bushels to the acre. Now you will say this is pretty good corn for this season, and possibly you may think there is some error; but I have no doubt of the truth of the statement, that his field of five acres will produce 124 bushels to the acre.

You all know that Mr. Thurber is a modest man, and could hardly be pursuaded to come up here and unfold to you the process by which he has beat the *natives* in corn growing; but he has confided the secret to me, and I am going to ask you all to help me keep it. In the spring of 1857 he took the liberty to plow this land a foot deep, which he calls subsoiling; but in this he miscalls terms. His subsoiling was trench plowing; that is, going twice in the same furrow, and throwing the subsoil, which was a stiff clay, to the surface. The land was cropped that year, and the last spring he put fifteen loads of that substance per acre that accumulates about stables, and sometimes in such quantities that the buildings have to be moved. Perhaps you will call this manure, which in all probability it is. This was plowed in, running the plow ten inches deep. The land was marked off and planted with the early Dent corn. Of course Mr. Thurber could not afford to grow any weeds on this land, after he had been to so much painstaking with it. He kept it well cultivated, and you have the result. So much for deep plowing, manure and careful culture. The cattle are now in the ring, and we will walk up and examine their fine points and coloring. "Bill" has won the first prize and walks off, flaunting the blue ribbon with considerable of the cod-fish cut, and followed with his roan bullship "Belted Will," proud of the red ribbon, which is a certificate of his standing as second in the herd of aged bulls. Of three years old bulls, "Don Juan," a beautiful roan animal, but with a naughty "Byronic" name, soon appeared with the significant blue, followed by Hector, carrying off the red.

Only one two years old bull came to claim the honors, and being judged worthy, the first premium was awarded him. His name is "Dark Roan," being all his owner could afford him these hard times.

Of yearlings "Young Enterprise"—what an enterprising name—was adjudged the post of honor, while "Jim" has the second post of honor.

The bull calves came next in order, when "Gen. Havelock" had the blue placed on his tiny horns, while the honors of the red were awarded to "Fremont."

Among the aged cows, "Nelly" was awarded the post of matronly honor, and "Beauty" must be content with the second place.

Among the three years old cows "Snowdrop" came in first and "Bracelet" second.

Among the two years old heifers, Dutchess of Kent—a noble name, by the way—was given the first award, and "Beauty" second.

Of the yearling heifers, "Lilly Dale" is No. 1, and "Pride of the West" No. 2—both owned by Mr. Sinclair.

Among the heifer calves "Susan" stands first and "Lizzie" second.

I must not forget to mention that all these claim royal descent, unmixed with vulgar blood.

"Fanny," a beautiful cream color, owned by George Chambers, bore off the honors among the native cows for her milking qualities, and well she deserves the high position awarded her.

We must give our attention to the horses, which are now crowding into the ring, and pass over the numerous fine animals, both grade and native.

"Tippo Saib" is endowed with the post of honor as chief of the harem, and well does he deserve this mark of favor; but "Young Onus" is dividing with him the honors, as he bears himself proudly around the ring.

Among the three years old, "Charley" has won the blue, while "Frank" gracefully submits to the red. Here comes Mr. Beck, driving "Kit" and "Puss," who deserve a long streamer of blue instead of that short bit presented them by the committee.

Goodrich is just in with his load of the famed fanning mills. See how the farmers crowd around them, and well they may, for those mills possess more powerful logic than my feeble efforts can afford. They contain convincing arguments that wheat will not turn to chess when once passed through their magic screens. Nor will oats choke out the spring wheat or foul seed find place on the farm among the field crops, when this mill is used. Goodrich has taken away the last hope of the slovenly farmer by which he can shift the fault of foul seed to others. He has reached their pockets by giving them better prices for their well cleaned grain and seeds.

The plowing match is one of deep interest, and you may well feel proud of it; but your plowmen have not done their duty—their furrows are too shallow to reach the deposit of potash so essential to good crops.

Of agricultural implements the show is almost a failure, there being no large establishments for their manufacture in the county. This is to be regretted, for the Fox has the power at command to turn the wheel that shall wield the ponderous hammer or speed the lathe to do the work for all your wants in this line.

Of swine the show is not large, but all of superior animals, and what is peculiar, nearly all of a pure white. I can only construe this that a mixture of black is not to your taste, and you leave it to politicians to speculate on the value of a mixed color.

The sheep family make a fair display of snowy wool, and will well repay you for increased attention in this part of your rural labors.

We must now return to the stand, but before we do, just cast a look over these beautiful grounds, with its rich setting, the products of your toil, and contrast it with your former efforts. Do you suppose that you will again be cramped within a church or a court house yard? Do you not rather think that these grounds will soon be too small for your use—that you will soon want more

space? It should be your pride to fit them up with sheds, with stalls and with proper buildings, so that when autumn, with its ripened glory, shall again visit you, that you may again meet for your mutual advantage and count up your progress.

I should liked to have had the pleasure of learning the names of the several owners, but with few exceptions this is a deep secret, more difficult to unlock than the hidden mystery of the source of the White Nile; but in due time this will be unfolded to the world by your officers, when those who choose to examine the record will be enlightened. In the mean time I must return home, with the reflection that the integrity of your committees are under suspicion, and that you dare not trust so great a secret to their keeping. I had supposed that one important object in these exhibitions is to advertise the owner and his goods. This is laudable and should be encouraged; but this suppression of the owners' names has the effect, in our opinion, to lesson the value of the exhibition. I would suggest, if it is necessary to continue this sort of hocus pocus, that a committee be chosen, who are to be blindfolded, like Dame Justice with the scales, furnished with a set of dice, and play for the prizes. This would be disinterested, and save the committee from the suspicion of dishonesty, and at the same time permit the public to know who are the owners of articles on exhibition.

You have led me back to this stand for the avowed purpose of giving you my opinion of your progress.

You have treated me with courtesy and great freedom in explaining the minute details and processes of your farming and household operations, by which you have been enabled to make this demonstration as a proof of your assertions. You have informed me of the struggle and privations incident to your first settlement—the want of mills, of markets and of schools—the thousand inconveniences of your farming and household arrangements—of your trips to the lake market, the embryo city of the then far-off west—how you bartered your wheat, your corn, your beef and your pork for your hardware, for clothing and for groceries, and returned to your homes laden with the products of your exchange. You have given me graphic pictures of passing treacherous sloughs, and how heavy rains impeded your progress—of your camping out, during your journeying to and from market—of the straying off of your team or of being soaked through by the passing shower; all of these incidents are now to you matters of pride, and you cast back your thoughts to them and bring them in comparison with the present now. If I have sympathized with you in your earlier privations, I have rejoiced with you when the iron horse first thundered over your prairie—when the steam whistle first sent its shrill notes over the prairie and through the deep aisles of your sylvan groves, bringing the markets of the world to your doors, and inaugurating a new era in your progress. Your whole time could then be devoted to your farms, and you have

since made wonderous progress. You are no longer on the western frontier, but in the midst of a populous state, with a fair amount of the social machinery of the moral world about you. To say that you are all first rate farmers—that you have all the comforts and conveniences of life—that your orchards, your lawns, your farm buildings, your fences, your mode of farming is all that can be desired—that your soil is too fertile to need manure, or will not repay the cost of new fertilizers, would be a slander upon your intelligence, and unworthy of your fame.

That your farms are too large—that you own too much land—are facts so patent that they require no denial. Large farms preclude compact, social neighborhoods, preventing the introduction of schools, of churches and that society without which rural life is but a mockery. The time is not distant when, by thorough draining, deep culture and protection, a farm of one hundred acres will give a greater surplus return than a whole section cultivated in the present mode. Tile draining has not as yet attracted your attention, but you will soon learn its great value. It will defend you against drouth by making the soil permeable, thereby allowing the moisture to arise by capillary attraction. It will save your crops against heavy rains, like those of the past season, by allowing the surplus water to filter through to the drains, by which it is discharged. It will thus carry to the roots of plants ammonia and the phosphates that are wanting by the needy plant. It will not only prevent the roots of plants from being destroyed by standing in stagnant water, but will allow them to go deep after the proper elements of their growth. It will give to your orchards a healthy and vigorous growth, and insure you fair returns of their pomonal products. It will make your yards, your gardens and your lawns pleasant places, and give to your home surrounding new beauties, that shall make you contented with less though better cultivated acres. Allow me to say to you that thorough draining is one of the first great essentials to success, and until you adopt it you will fall behind in the average acred products of the sterile farms of the rugged hills of New England. With all the boasted richness of your soil, now in its virgin fertility, why do you not produce more per acre than you do? Do you desire to follow in the footsteps of worn-out Virginia or will you judiciously use the wealth at your command? We proudly boast of our cereal wealth, and point to the millions of bushels of surplus which we send to distant markets yearly. At the same time we are silent about the great number of acres that we run over to make up the amount. We have now more land under the plow than with the natural increase of our labor we can judiciously cultivate in the next ten years, without turning over another foot of the unbroken prairie. In your premium list would it not be better to offer a reward for the best acre of wheat, of corn, of oats or of potatoes than simply to allow the cultivator to select a bushel of the best specimens of his whole crop? Of what use are overgrown

products? They are pithy, watery specimens—mere *lusus naturæ*, and not fair specimens of careful culture. They are those accidents at which we wonder, but which we throw aside for their inferiority when we come to their use. It is well that they should be exhibited, but they should not be set forth and paraded as patterns for us to follow. It would be much better to make it a rule that the bushel of wheat that should take the first prize should be an average of the crop, rather than a bushel of the best grains carefully winnowed from a thousand bushels. I think this part of our fairs needs a thorough overhauling, so that the premiums offered will bring together more of the useful and less of the wonderful.

Would it not be well to offer premiums for the best orchard, the best garden, the best planned yard and house grounds, the most convenient house, the most useful and convenient barn, and to the farmer who takes the best care of his stock, reference being had to the number—for the most profitable farm, reference also being had to the number of acres and cost of improvement—for the best flower garden, planted and tended by the youth of either sex. Our females need more out-door exercise, and this would tend to establish it. It would produce a rivalry that would be productive of high social worth; it would tend to draw the youth around their home, for they themselves would assist in furnishing its attractions; it would build up a joint interest, around which the family would cluster their affections.

The subject of fencing is one of great importance, and I would call your attention to the great value of having your stock kept upon the farm, and within proper inclosures. There is no question in my mind that the early settlers of the prairies would have found it more to their interests to have made inclosures for their stock, and to have let the grain take care of itself, for there is no danger of the grain straying off, while the loss of time in looking up estrayed teams, cows and other stock, has been the prolific source of loss and annoyance. We know also that when the prairie has been pastured a few seasons, that the grass becomes thin, the turf undergoes the process of decay, which, with the droppings of stock, makes it one of the most fertile fields for corn that we have. This sod is easily broken up in early spring with a span of horses, costing no more per acre to plow it than old land, and all that is necessary to insure a bountiful crop is to *chop* in the seed, when, without further care, if the seed be good, it will rival the old land with its yield of golden ears. By this course, the grain land in its turn can be seeded down and mowed or pastured, and in turn again come under the plow, either for sod corn, winter or spring wheat. The farmer who permits his stock to wander over the prairies, without furnishing them with the cultivated grasses for spring and autumn feed, is blind to his own interest, and should be taught that other food than the corn field, and that other shelter than the corner of fences are needed for his stock.

As it would be the heighth of folly to grow grain alone on the farm year after year, so it would be bad economy to send the stock off to some distant prairie to pasture, when the time spent in looking after them would cost nearly as much per annum as would a fence to inclose them. In the northern and central portion of the State, the soil and climate are so admirably adapted to a mixed husbandry of grain and stock growing, that it is hardly possible that a farmer can for a long time prove successful in disregarding this natural, I might say almost imperative provision of nature.

It hence follows that no farmer can afford to dispense with stock upon his farm, nor can he afford to feed them upon corn thrown to them in the highway, whence they may freely ramble out upon the prairie. You have, it is true, an abundance of pasturage during half of May, all of June and July, and half of August, making three months of abundance, and a scanty subsistence the remainder of the spring and autumn; and it is for this three months feed that the grain is carefully fenced in. Even then this grain field is often so arranged and occupied with corn and winter wheat, that the late fall feed cannot be made available. I therefore ask, would it not have been better that the stock were fenced in, the pasture sown with clover and timothy grass, which requires no further culture than sowing, so that six instead of three months good feed could be obtained? In this case there would be no need in looking up stray teams when most wanted, lost cows whose milking qualities are damaged for want of milking, or young cattle lost. Your land is benefitted by pasturing, and by a judicious arrangement of the fields most of the late fall feed can be made available. I do not say that many of you do not pursue this course, for I know that you do; but there is such a large, I might say such a respectable number, that I have considered it my duty to call your attention to the fact.

I have no great veneration for what is termed scientific agriculture; that a chemist can take a handful of your farm soil and tell what it requires to make it more fertile by a single analysis; he might give some crude hints, but his opinion would be of little value. On the other hand, we knew that stable manure possesses a wonderful charm applied to corn, to root crops and to the cultivated grasses, while to the cereals when applied directly its effect is to increase the growth of straw to such an extent as to endanger the crop. This we know without the aid of the chemist; it matters not what *ologies*, what *orgies*, what *phates* or *ites* it may contain; suffice it for us to know that it is of paramount importance in the successful culture of the staples named. Our barn-yard manure may bleach and rot and crumble into dust; the chemist may tell us that its value is lost, yet we know that when we apply this same *waste* to our garden vegetables, that it gives them a vigor almost magical, and hastens their maturity several days in advance of those in the same soil that have not been thus treated. It should therefore be our care to see that no manure is lost, and that it be

mixed in the soil to improve our crops. It should be our ambition to grow a given quantity of grain, instead of to farm a given number of acres. The former advances us in our calling, while the latter becomes a reproach and a bye-word.

The various insects, so contemptible in themselves, yet when arrayed as they sometimes are, in countless numbers, make no insignificant enemy, and at which we are sometimes almost appalled, they should receive more of our attention. The study of entymology should be encouraged so as to enable us to know our enemies from our friends, as it is well known that among insect life, there are many that aid us in keeping down those which are bent on mischief. We should thus be enabled to draw a line between them so as to always distinguish the bad from the good.

The alkalies and acids are both injurious to insect life, and both make valuable fertilizers. Is it not, therefore, possible that with these aids, that we can make successful war on these destructive hordes, and at the same time increase the growth of our plants?

The chinch bug, the hessian fly, the bark louse, the woolly aphis, the borer, and an almost endless variety of depredators prey upon our trees and our field crops, while in early spring others as ruinous commence to eat out the germ of the newly planted seeds, or destroy the first shoot of the plants. We must look these things in the face, and learn to check their ravages; it will not do to let them come when they will, eat what they choose and leave at their good pleasure. The curculio which has ravaged our plums, our nectarines, and threatens with destruction our entire peach crop, has lately been met upon the threshhold of his victories. A few coops of chickens have been put in array against him, and he has been jarred from his perch; but he swarms in increased numbers, and bids the laggards in practical entymology defiance. Was he followed up with dose after dose of acids and alkalies, shook down into Dr. Hull's inverted wheel-barrow umbrella, while the morning sun is drinking up the dews, think you, would he not succumb to such energetic practice?

The vegetable garden! How we rejoice when we enter its hallowed bounds of health-giving food! Huge beets, carrots, turnips, onions, cabbages, etc., rich with the ripened hues of autumn, ready to be garnered into the cellar, to minister to our wants while the earth performs hibernation, and no longer yields her bounties. But when overrun with weeds, or the autumn grasses, among which we find a few starved plants, faint evidence that the spring visited the spot, and that the guardian spirit which rules the farmer has been off duty—playing the laggard—and by sad, unwarranted neglect, made the most valuable part of the farm a barren waste.

Allow us for a moment to consider the flower garden, that bright gem that, like a guardian angel, binds the household by its secret bonds of beauty. Are we not all lovers of the beautiful? We may worship at the shrine of wealth—we may pay tribute to fame,

but we bow down in humble adoration to beauty. What is a farm-house without flowers? Of what value is its surroundings, if flowers—vernal flowers, summer flowers and autumn flowers form not a part of the fitting? It is like the blasted pine on the mountain's side, alone in its desolation, and without the hope of again having its head clothed in verdure, an emblem of awe, of blasted hopes or the want of energy. Plant flowers—they will repay your care in love, in an enlarged idea of the Great Giver, and when you bend from toil they will breathe sweet odors that shall repay you for all their care.

Our good friends, the birds, should partake of our bounty, and be protected in their rights. They destroy hundreds of insects, of larva and of caterpillars daily, and were it not for them the insect tribes would rob our orchards of their foliage, our shade trees of their beauty, and our fields of a large part of their products. It is true that they sometimes take a little toll, but it is when they have exhausted our insect enemies, or that we fail to plow up the grubs upon which they should make their daily meals. Did you ever know the black bird to pull up your corn after the plow commenced turning up the fresh soil, whence its keen eye would seek out the grubs, its more favorite food? See with what confidence they follow after you in early spring, as you turn up the soil for your summer crops of corn and oats. Would it not be better to feed them than to hunt them down—to plant groves for their protection than to drive them away? I know your answer will be in the affirmative. What music there is in the robin's early carol, as the hues of the morning first paint their faint outlines on the gates of day, and before the sun has shed his glories over the earth, just aroused from her winter sleep! To you whose homes are embowered in trees and climbing vines, and who are daily greeted with bird music, richer than that which flows from reed or tortured string, you can fully appreciate the value of their labors in your behalf. But to those whose morning music is only the shrill clarion notes of the rough throated Shanghai—to them we would appeal, to them we would urge the rights and privilegs of our feathered friends.

In conclusion, I would say that your success in this exhibition should stimulate you to new exertion. It shows that you are making good progress in your vocation, and that these days devoted to a review of your labors will have a beneficial effect on your future efforts. It is a day that will be rich in the reminiscences of your children, and in after years, when your wide sweep of prairie shall be under the dominion of the plow, and its surface dotted with groves, in which shall nestle thousands of homes—when the steam plow shall have turned up the now hidden wealth of your subsoil, and your broad acres shall have doubled their averaged acred products, then you may look back upon this effort as the beginning of your rapid onward progress.

KNOX COUNTY.

Officers for 1858:

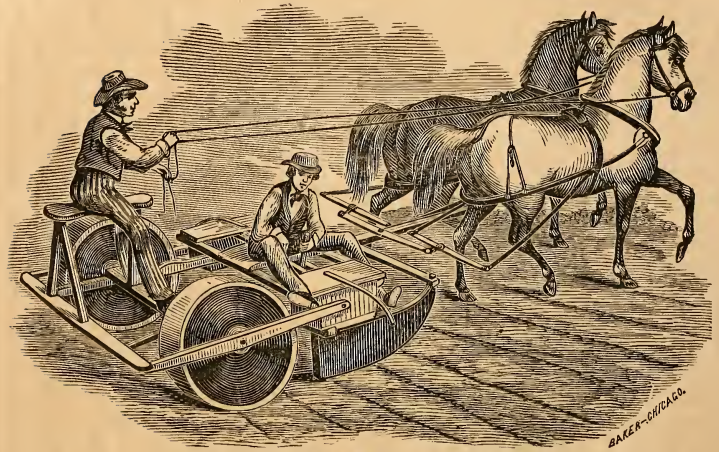
President—S. I. Bergen.
Secretary—Thomas Muir.
Treasurer—H. K. Taylor.

The Knox County Agricultural Society was organized June 4th, 1853, or rather re-organized, for it had a brief existence some ten years before, but was suspended on account of the financial difficulties of that time.

From the time of its revival its progress has been continual and rapid. In 1855 the Society purchased ten acres of land for fair grounds. These grounds have been inclosed with a close board fence, six feet in hight. Two skeleton exhibition booths have been erected, each one hundred feet long, and one booth eighty feet long, furnished with seats for the accommodation of visitors at the fair. These booths, when in use, are covered with canvas. A secretary's office, sixteen by twenty feet, an octagonal centre building, fifteen feet in diameter, and sixty-six permanent covered stalls have also been erected. Two hundred and forty trees of different kinds have been planted out on the grounds. The Society contemplates the erection of substantial buildings and stalls for the protection of all articles and animals on exhibition that may require protection.

As a means of obviating an objection sometimes raised, that awarding committees are influenced by a knowledge of the ownership of the articles or animals which come under their consideration, and of relieving such committees of any embarrassment on that score, a plan of making entries and designating animals, etc., has been adopted, by which no one except the secretary has the means of determining who is the owner of any article or animal until after the awards have been made. This system gives general satisfaction.

The exhibition of 1857 was far better and more extensive than any before held by the Society. The number of superior Horses and Cattle was large; of Sheep there were several fine specimens. The display of Swine was less extensive than usual, but there were several fine Suffolks. In the Mechanical and Farm Implement departments was exhibited a very general assortment of articles. The display of Fruits and Vegetables was remarkably fine. The booth, one hundred feet long, devoted to this department, was found to be entirely inadequate. The other booth, devoted to plain and fancy Needlework, Domestic Manufactures, Flowers and Painting, was well filled. The various kinds of Poultry were there in abundance. R. H. Whiting erected one of —— windmills at the stock well. This mill attracted much attention and was of material service in raising water.



BROWN'S CORN PLANTER,

Which took the first premium at the State Fairs of 1857 and 1858. Invented by G. W. Brown, and manufactured by him, at Galesburg, Illinois.

[Face page 244.

The beneficial influence of the Society was manifest at this fair, in the increased number of thorough-bred cattle and horses and Morgan horses—in the increased attention devoted to the products of the dairy—to the manufacture of bread and cakes—the preservation of fruits in various ways—the attention devoted to root crops, and the eager inquiries in regard to the comparative productiveness of the different varieties of grain on exhibition. For the first time, sugar and syrup from the Chinese Cane was exhibited. Seeds and grains were freely exchanged and distributed by the exhibitors. Harmony and good will pervaded the multitude. A community of feeling was evidently arising among people of different professions and of different parts of the county. Every farmer and mechanic returned to his home with a fuller confidence in the respectability of his profession and a higher appreciation of the intelligence and power of the class to which he belongs. The receipts of the Society at the fair of 1857 were $1,200.

The officers of the Society were, President, R. L. Hannaman; Vice Presidents, Wm. M. Clark, J. Blanchard, George Newman and James H. Sumner; Secretary, P. H. Sanford; Treasurer, H. Knox Taylor; Executive Committee, Cephas Arms, H. S. Woods, Wm. Leighton, Geo. I. Bergen, Luther Martin, Wm. McMurtry and A. W. Martin.

On the 7th day of November, 1857, the Society elected the following named persons, officers for the ensuing year: President, George I. Bergen; Vice Presidents, Wm. Stewart, W. D. Coy, R. W. Hunt, Thomas McKee, P. W. Epperson, John Terry, Asa Haynes, William Goodell, Stephen Smith, Edward Crane. B. F. Allen, Woodford Bearee, R. W. Miles, William Leighton, Amos Ward, M. B. Mason, Jacob Heightlinger, Benj. Shafer, Thomas Whiting, Jonathan Gibbs; Executive Committee, J. M. Wetmore, R. H. Whiting, S. S. Russell, Luther Martin, Henry Arms, Isaac Hunter and A. W. Martin; Secretary, Thos. Muir; Treasurer, H. Knox Taylor.

The large number of vice presidents were elected, one from each township in the county, with a view of exciting a more general interest in the Society.

The premium list for the fair of 1858 was very carefully made up and greatly enlarged. A new and tasteful diploma was procured, and the accommodations for live stock much increrased. But as the season advanced, the officers of the Society could not avoid feeling some misgivings. The whole country was laboring under a scarcity of money—the spring and summer had been wet and extremely unpropitious—hurricanes had swept over various parts of the county, prostrating buildings, fences, orchards and growing and ripening crops—hail storms had transformed fruitful farms into temporary deserts. It almost seemed that everything within and without conspired to blast the hopes of the farmers and consequently of the mechanic. Yet, under all these discouraging circumstances, preparations were made for the fair, and the result

vindicated the wisdom of the course. The attendance on the second day of the fair was estimated by competent judges at six thousand.

As a means of showing, at one view, the extent and variety of the exhibition of 1858, the interest taken in the Society by the people of the county and the general dissemination of skill in the various departments, the following table is introduced:

Whole number of entries	1,025
" " persons making entries	362
" " premiums offered	490
" " " awarded	341
" amount offered in premiums	$1,335
" " awarded "	$928
" number of diplomas	59
" " books	26
" " persons and firms who received	196
" " members of society	535
" amount of receipts at fair	$1,096
" " " of the year	$1,225

It will be seen that the number of exhibitors was large as was also the number who received premiums.

The display of Fruits and Vegetables was less this year than it was at the fair of last year. In every other department the exhibition was better. In Classes "Farm Implements" and "Mechanical" many of the articles were the invention of the exhibitors, among these may be mentioned, Brown's Corn Planter, Colton's Wheel Plow, Lee's Gang Plow and Drill, Bassett's Horse Rake, Thirlwell's Cultivator, Wallock's Straw Cutter, Mitchell's Corn Planter and Corbin's Broadcast Seed Sower. Of the Horses, three were thorough-bred and one was a son of the celebrated trotting horse, St. Lawrence, and several were Morgans, from three-fourths to pure blood.

The Society, considering that the fact that an animal had passed under the supervision of its committee as thorough-bred would be taken as evidence that it was really so, have required that perfect pedigrees should be presented. The operation of this rule excluded some cattle which were entered in that class.

A variety of hogs have been bred in this county for many years which deserves to be more widely known. They are here called "Spotted China." They fatten easily at any age; are of quiet habits; are prolific, and usually range from 250 to 400 lbs. net weight at sixteen months old. It is confidently believed that these hogs will compare favorably with any of the different breeds which have engaged public attention within the last fifteen years. Several fine specimens of Spanish and French Merino Sheep were at this fair.

During the entire three days of the fair, September 22, 23 and 24, the utmost good feeling was manifested by exhibitors and visitors, and multitudes who had been mere spectators left the grounds fully determined to be exhibitors hereafter. A material change has been developed in the purposes of the exhibitors since

the organization of the Society. At first the ambition of each was to excel as an individual—the rivalry was with his neighbor—now each one is anxious to co-operate with his neighbor that we may excel as a county.

It is believed that the Society is more firmly entrenched in the good will of the people of the county at the present moment than at any former time.

On the 6th day of November, 1858, the Society adopted a revised constitution and a set of general rules. These documents are believed to possess many excellencies. Officers for the ensuing year were elected at the same time, as follows: President, George I. Bergen; Vice President, William Leighton; Secretary, A. W. Martin; Treasurer, H. Knox Taylor; Executive Committee, M. B. Mason, J. H. Sumner, Isaac Hunter, Cephas Arms, Luther Martin, S. S. Russell and B. S. West; Auditors, A. J. Dunlap and Thomas Muir.

A very large number of persons in this county planted Chinese Cane the past season, varying in amount from a few square rods to twenty acres. From this large quantities of syrup were made, varying in quality according to the time of cutting and skill in manufacture. It is fully demonstrated that farmers can make their own syrup and sugar from this plant.

It has occurred to the undersigned that the reports from the county societies might embrace a variety of statistics tending to exhibit the moral, educational, physical and industrial condition and resources of the counties, and thus the successive volumes of Transactions of the State Agricultural Society would become a record of deep interest to the agriculturist, the artizan, the statesman, the philantrhopist and the immigrant. Such statistics, if carefully prepared, would indicate to every class of men in what part of the State their labor is most needed and best rewarded—what parts are adapted to the various products of the earth—where minerals abound and would exhibit to legislators the magnitude of the agricultural and mechanical interests, and more than all, would place before the laboring part of the community evidence of the stupenduous results of their efforts and thus beget in them increased self-respect and thereby elevate them socially and morally.

Stone suitable for building is found in different parts of the county. Limestone abounds in some townships. The lime made therefrom is of good quality. Bituminous coal is found in almost every township. Some veins are two and a half feet thick, others three feet, five feet, etc. Hundreds of excavations are made for the purpose of supplying the immediate neighborhood, from which it would be impossible to obtain a correct account. Nearly all the shops, stores, offices, school houses, etc., are warmed by coal excavated in the county.

A. W. MARTIN, *Secretary.*

LA SALLE COUNTY.

Officers for 1858:

President—Bronson Murray.
Vice-Presidents—Samuel R. Lewis, John H. Hosford, William Cogswell, *et al.*
Secretary—S. O. Harris.
Treasurer—T. R. Courtney.

Our annual fair was held at Ottawa, on the 28th, 29th and 30th of September; but owing to the facts that a horse show was held in the county on the same days, and that the season was a very bad one, it was not near as good as for some years before. The receipts, however, for the first day, were larger than ever before, but the last day was stormy and the fair for that day was almost a failure. But we have paid our premiums, $100 on improvements, and have a small surplus in the treasury. On the whole we were well pleased, and shall go to work another year with a right good will and the brightest anticipations.

There is a marked improvement from year to year, especially in stock; and some of the finest cattle and horses to be seen anywhere can be found in this county.

In the mechanical department, too, there was much that was praiseworthy on exhibition—though not one-fourth of our mechanics were represented.

Our speaker for the day, John Hise, Esq., an energetic, talented farmer, was unfortunately taken ill during the progress of the fair, and we were deprived of our usual address—an omission which all regretted, as something substantially good was anticipated.

We now have ten acres of ground, near town, well inclosed, with buildings, pens, etc., and do not owe a dime to any one; and our prospects for the future look fair and bright.

J. O. HARRIS, *Recording Secretary.*

LEE COUNTY.

Pursuant to a call, the citizens of Lee county met at Exchange Hall, at 3 o'clock, P. M., the 14th day of July, A. D. 1858, to take into consideration the best method of organizing an Agricultural Society, under the general act for the incorporation of county agricultural societies, approved February 8, 1857, by Legislature of the State of Illinois, its objects to be to promote and improve the condition of agricultural, horticultural, and the mechanical, manufacturing and household arts in Lee county.

The meeting was organized by calling J. B. Nash to the chair, and appointing B. F. Shaw, Secretary.

On motion of James A. Hawley, a committee of seven was appointed by the chair to draft a constitution for the organization of an Agricultural Society in Lee county.

Whereupon, the chair appointed Messrs. John Dement, James A. Hawley, Wm. E. Sheffield, A. C. Stedman, N. W. Abbott, Enoch Wood and George L. Herrick.

After an adjournment from 3 o'clock P. M. until 7 o'clock P. M., the committee reported a constitution; which was adopted, and the following named persons were elected as officers of the Lee County Agricultural Society, for the ensuing year: Wm. H. Van Epps, President; James C. Mead, Recording Secretary; James A. Hawley, Corresponding Secretary; Wm. Butler, Treasurer; A. R. Whitney, F. W. Coe, Wm. Uhl, Seth H. Whitmore, J. T. Little, Abram Brown, Lorenzo Wood, Hiram Terry, John Mooers, Executive Committee.

On motion, the following gentlemen were appointed to draft a set of by-laws for this Society: Wm. E. Sheffield, James L Camp and A. C. Stedman.

At a meeting of the Society, held July 31st, the by-laws, as prepared by the committee, were presented and adopted.

On motion, the following named gentlemen were appointed a committee to view grounds and select a site upon which to locate the annual fairs of the Society, in accordance with section 12 of the constitution, viz: W. H. Van Epps, John Mooers and J. T. Little.

SEC. 12. This Society shall hold its annual exhibition at Dixon, at such times as the executive committee shall designate, for the space of five years next ensuing.

At a meeting held August 7th, it was, upon motion, ordered that the grounds lying east of the cemetery, about one hundred rods east of the centre of the city, which have been under view of the committee, be and are hereby selected as the grounds upon which to hold the annual exhibitions.

At a meeting held at Dixon, August 21st, it was, on motion, ordered that Wednesday, Thursday and Friday, the 20th, 21st and 22d days of October be the days upon which the Society hold its annual exhibition.

The following preamble and resolution were unanimously adopted:

Whereas it is deemed expedient and for the interest of the Lee County Agricultural Society, not only to increase its members, but the means of offering larger and more premiums, open up a more extended acquaintance among farmers, build up and create, as the Society is desirous, determined, and, we trust, has the ability to do, a Farmers' Union Society in fact, upon a just, liberal and permanent basis, where all persons may freely enter the arena of laudable competition; therefore,

Resolved, In behalf of the Lee County Agricultural Society, through their Executive Committee in session, that they do hereby extend a cordial invitation to the farmers, mechanics and citizens generally of the counties of Ogle and Whiteside to join with them in their first annual fair, to be held at Dixon, October 20th, 21st and 22d, 1858, and compete equally in all respects with members of this Society for premiums *only*.

The piece of ground selected is most admirably adapted for the purpose; the Society has the privilege of using eighty acres if at

any time needed; they now have inclosed about twenty acres; upon one corner of the ground is a spring of pure cold water, affording a sufficient supply for all the stock the grounds will accommodate; about half of this ground is covered with a nice grove of forest trees, making an excellent shade; through this portion of the ground are a large number of stalls and pens. The other part of the ground is almost a level prairie, upon which has been laid out and graded a good course for the exhibition of stock. This being the first year the buildings are only temporary, although passably good and of large size.

The first day of the fair was a very disagreeable, dreary, wet day, and but small attendance; in consequence thereof the President announced upon the ground that the fair would be continued three days longer, and that the entry books would be kept open another day. The attendance during the three days was very good, ranging from 4,000 to 7,000 persons.

The object of inviting the citizens of Ogle and Whiteside counties to join with us was conceived to be a good one—it called forth a large concourse of farmers from those counties to participate with us, and brought out the best stock in the *three* counties, giving a good opportunity for all interested to compare notes.

The receipts from admission tickets and entries were		$1,845 00
Amount paid for fencing, building, grading grounds, labor, &c.	$1,450 57	
" " premiums to this date	396 50	
		1,847 07
Over paid		2 07

Our premium list amounted to $850, although there has been only about $400 called for, the balance being donated to the Society. Our Society is but slightly in debt, and before the 1st of January, 1859, a handsome amount will be found in our treasury to fall back upon for the year 1859—a good effort the first year.

There were five hundred and forty-one names recorded as members for this year, and there were about eleven hundred entries upon the books for exhibition.

JAMES C. MEAD, *Secretary.*

LOGAN COUNTY.

Officers for 1858:

President—Colby Knapp.
Vice-President—Jas. Tuttle.
Secretary—Wm. H. Young.
Treasurer—Wm. M. Dustin.

The first effort towards establishing an agricultural society in this county was made in 1856. Previous to that time, although the benefits and importance of such an association was admitted by

all, there had been no combined efforts upon the part of our citizens for the improvement of our farmers.

Upon the 28th of June, 1856, a public meeting was held, which was numerously attended, for the purpose of organizing an agricultural society; at which meeting a constitution was adopted, and the following officers appointed: Colby Knapp, President; M. C. Hildreth, Vice-President; Wm. H. Young, Secretary; and Wm. F. Ryan, Treasurer. An Executive Committee was also appointed, and the 9th and 10th of October following fixed for holding the first annual fair. In the month of September, and but a month previous to the time set for the fair, the officers and Executive Committee met, when it was found that but a very small sum had been subscribed towards purchasing a suitable site for the fair grounds and defraying the expenses of the fair. It was then seen that we would either have to abandon altogether holding a fair that year or else adopt some sure and speedy method of procuring the necessary funds. Accordingly the officers and members present, to the number of ten, formed themselves into an association, upon the joint stock principle, each of whom paid in one hundred dollars, and received a certificate of stock therefor. With the funds thus obtained a handsome piece of ground of ten acres was purchased, one mile from Lincoln, and the same was inclosed with a high, tight fence, and the necessary stalls and fixtures erected in time for the fair. The success of this our first fair was complete, and, considering the short time for preparation, the members had good cause to congratulate themselves upon the fruits of their labor.

About four hundred dollars were distributed in premiums, and the receipts for entries and at the gate were amply sufficient to pay the same, as also all the incidental expenses attending the exhibition.

The display of horses was very fine, ninety-two entries having been made.

The display of cattle, hogs and sheep, though not large, was better, both as to quality and quantity, than was expected by the Society.

Household, garden and orchard products, and the ladies department, were well represented.

The whole number of animals and articles entered was two hundred and fifteen. Total number of premiums awarded, ninety-six. The total receipts, five hundred and thirty-six dollars.

Animated by the success which attended the first exhibition, the Society, determining to profit by the experience which had been gained, resolved to prepare for the second annual fair in a manner worthy of our county and of the important interests which such exhibitions are intended to promote.

The second annual meeting was held upon the 18th of March, 1857. An election of officers was held at this meeting, which resulted in the election of Colby Knapp, President; James Tuttle, Vice-President; Wm. H. Young, Secretary; Wm. M. Dustin, Treasurer.

The Society having obtained from the Legislature, during the preceding session, a charter, the same was accepted, and it was ordered that the Society should in future act under the provisions of the same.

The Treasurer, at this meeting, reported that stock to the amount of $1,300 had been taken, and it was ordered that the Society keep open books for the subscription of stock until the full amount ($2,000) should be taken.

The time for holding the second annual fair was fixed on the 9th, 10th, 11th and 12th of September.

A premium list much more extensive and varied than the first was adopted, and nine hundred dollars appropriated for premiums, to be paid in plate and agricultural books.

During the spring and summer the fair grounds were beautified by planting therein a large number of trees, and by erecting permanent and tasty buildings in place of the temporary ones of the preceding year.

The second fair was one of which the Society had just reason to be proud. The weather was delightful, and during the whole four days the interest of exhibitors and visitors remained unabated. The display of animals and articles, in all the classes, with the exception of grain and vegetable products, which, owing to the general backwardness of the season, were inferior, was large. In every respect this exhibition was an improvement upon the first, evidencing that our farmers and mechanics are, as a class, anxious and ready to avail themselves of all the improvements and knowledge of the age, and that it only requires the competition and generous rivalry of such exhibitions as these to draw them out.

The ladies' department was well represented. They appeared to be animated by a zeal and interest in the success of this fair which was contagious. Their department was the great centre of attraction during the fair, and well deserved to be so.

About one thousand persons were in attendance during the fair, mostly citizens of Logan county. The number of entries was five hundred and twenty and the number of premiums one hundred and fifty. The receipts were much larger than at the first exhibition, and the amount paid in premiums three-fold greater. The receipts at the gate and for entry fees met the necessary expenses of the fair, including premiums.

The third annual fair of the Society was held September 8th, 9th, 10th and 11th, 1858, and although it had more to contend against than any of the preceding ones; among the principal of which were the pecuniary condition of the country, the extreme backwardness of the season, delaying the maturity of all the principal field crops and vegetables, and the unfavorable weather during the greater part of the fair, yet its abundant success has satisfied those who perfected its organization that it has now become a permanent and successful institution, with a prospect, for the future, of increased and constantly increasing usefulness to the agricultural

interest of Logan county. The number of premiums awarded was one hundred and thirty-four, and the number of entries about the same as last year. There was a manifest improvement in the stock upon exhibition over that of the two preceding years, and all of the departments were well represented.

From the success which has attended our Society so far we feel encouraged to carry on the work with renewed energy, and, profiting by past experience, hope to make each succeeding exhibition an improvement on the past.

In behalf of our Society, the undersigned cannot refrain from expressing the hope that in future the State Society may be permanently fixed, and although this is a matter in which the whole state is deeply interested, still, taking into consideration the location, the facilities for reaching it from all points, and the fact of its being the capital, where citizens from all portions of the state so frequently resort, Springfield seems to be the proper place. The advantages of having the State Society permanently located have been so often and so ably exhibited by others, that I could add nothing to what has already been said. Let the State Society become located permanently, and the various County Societies become auxiliary to it, looking to it as the supreme head of the agricultural interests in this state, and there can be no doubt that it will redound to the common interests of all. There is no reason why the State and County Societies, which are working for a common object, should not act in unison.

In conclusion, the undersigned would express, in behalf of his Society, the pleasure and gratification with which they have witnessed the onward march of the great agricultural interest of our noble state—an interest upon which every other interest and business depends. It well deserves the fostering care of our people. The learning and genius of the world is untiring in its efforts to improve every branch of human industry, and none have profited to a greater extent by these improvements than the tiller of the soil; and it can safely be added, that the most ready means of extending the knowledge and increasing the skill of the agriculturist is by means of properly conducted agricultural fairs. It is there where the farmer receives food for reflection, which will be laid up for future use. It is there where that laudable rivalry is created as to who shall make the most out of the raw material, which is ready for all to take, use and improve; and it is there where the farmer can learn how susceptible of improvement is the noble occupation in which he is engaged.

Respectfully submitted,

WM. H. YOUNG, *Secretary.*

MACON COUNTY.

Our Society was organized on the 28th day of June, 1856, and the following gentlemen elected its officers: President, E. A. Jones; Vice President, Wm. Rea; Treasurer, Wm. Martin; Secretary, James P. Boyd; Directors, Samuel Powers, Jacob Hostetter, J. G. Taylor, D. K. Wilson. The association then resolved to make the shares $5 each, and purchased a tract of land one mile and a half west of the city, which embraces twelve acres, at $50 per acre. The ground is beautifully located, well fenced, with several springs of never-failing water. It is well adapted in every sense of the word for a fair ground.

The first fair of this county was ordered to be held on the 9th and 10th days of October, 1856. The fair took place on the days specified, and there was a respectable attendance. There was a goodly number of stock, mechanical articles, domestic manufactures, fruits, vegetables, etc., on exhibition, of which the following is a list:

Cattle	37
Horses	47
Jacks and Mules	11
Sheep	9
Hogs	4
Poultry	10
Mechanical Department	20
Farm Products	11
Needlework	42
Discretionary	37
Total entries	228

On the 27th of June, 1858, a meeting was called for the purpose of electing officers for the ensuing year, and resulted as follows: President, E. A. Jones; Vice President, J. W. Tyler; Treasurer, I. C. Pugh; Secretary, James Shoaff; Directors, John G. Taylor, Robert Timmons, J. H. Pickrell, S. Powers, J. H. Snyder.

At a meeting of the officers, held June 29th, 1857, it was resolved that we hold a fair on the 30th September, 1st and 2d days of October, and that the fair ground be supplied with all the necessary improvements, etc. Mr. Jos. H. Snyder was appointed to superintend the erection of buildings; and through him several good, large sheds, for the exhibition of mill fabrics, needlework, etc., were erected. Also a secretary's office, twenty-five stalls and several other improvements not necessary to enumerate. Our ring, for the exhibition of stock, is 400 yards. The fair was held on the days specified, and was well attended by a large concourse of people.

The following is a list of entries:

Cattle	51
Horses	77
Jacks and Mules	7
Sheep	3
Hogs	8
Poultry	8
Dairy	3
Farm Products	21
Needlework	34
Mill Fabrics	12
Preserves	17
Mechanical	64
Total	328

Receipts at gates	$582 00
" of entries	55 05
Total receipts	$637 05
Paid out for premiums	600 00
	$37 05

The above balance and other moneys, from subscriptions, have been appropriated towards liquidating the debt of the Society.

In consequence of each shareholder having the privilege of making as many entries, free of charge, as he pleased, accounts for the apparent small amount of entry fees.

Dr. W. A. Barnes delivered the address before the Society.

At our annual meeting, the last Saturday in June, 1858, the constitution was so amended as to make the stockholders' meetings come upon the first Saturday in March, annually. This was done in order that the executive committee (which is composed of the president, vice president, treasurer, secretary and five directors, a majority of whom constitutes a quorum for doing business) might have more time in making arrangements for holding fairs, etc. The following gentlemen were elected as officers for the year: President, J. H. Pickrell; Vice President, J. Y. Braden; Treasurer, Henry Prather; Secretary, James Shoaff; Directors, John G. Taylor, Samuel Powers, E. A. Jones, John Hostetter and G. A. Smith.

Our last fair, which was held on the 7th, 8th, 9th and 10th of September, was well attended, considering the hard times and sickness.

The Society, by resolution, as it did last year, invited free competition; also abolished the practice of paying premiums in plate and substituted money and agricultural works. The number this year are as follows:

Cattle	35
Horses	82
Jacks and Mules	15
Sheep	4
Hogs	6
Poultry	15
Dairy	10
Farm Products	22
Mill Fabrics	15
Needlework	43
Hams, Bread, Native Wine, etc	17
Agricultural Implements	13
Carriages, Buggies, etc	13
Harness, Boots, Shoes, etc	7
Total	297

The show of horses was very superior, said to be unsurpassed, if equaled, by any collection in the State. There was a falling off in some of the classes in numbers, but the quality was better than at any of our former fairs. One of the most interesting features of the fair was that of the riding on horseback of some thirteen ladies—all of whom rode gracefully, with much ease, and creditably to themselves. The address was delivered by Mr. John Davis, one of our practical farmers. It was an able production.

Our president, Mr. J. H. Pickrell, also delivered a few appropriate remarks, which were listened to with much attention. I am sorry I am unable to give you the substance of his remarks.

Receipts, gate fees	$502 20
" Refreshment stands, exhibitions, etc	71 60
" Entrance fees	100 10
Total receipts	$673 90
Expenses of fair	228 52
Leaving a balance of	$445 38

The above balance was appropriated for premiums.

Our Society is in a healthy condition, and but little in debt. Next year, if we have luck, we anticipate liquidating the entire debt of the Society. Our president, as well as the directors and others connected with the Society, are sparing no pains or exertion in trying to make the Macon County Agricultural Society *the* Society of Central Illinois.

JAMES SHOAFF, *Secretary.*

MACOUPIN COUNTY.

The Macoupin County Agricultural and Mechanical Society has been in operation about five years. It struggled with indifferent success for the first three years, but the last two fairs show an in-

creased interest in the cause of agriculture in this county, and now, I am happy to say, that its future prosperity and success is beyond a reasonable doubt. The fair grounds belonging to the Society are situated three-fourths of a mile from the public square in Carlinville, containing seven and a half acres, part of which is a beautiful grove of native forest trees. The grounds are inclosed by a fence eight feet high built in the most substantial manner of post oak posts and pine plank. A beautiful and commodious building for the display of articles in the ladies' department has been erected the past season, and the Society, up to this date, has disbursed for improvements on the fair grounds altogether about $2,500.

The Society held its first annual fair on the 5th, 6th and 7th of last October. Open for competition to the State in the horse and cattle departments. $600 were offered in premiums, varying from $1 to $10. The total number of entries was about 500. The exhibition in the ladies' department reflected great credit upon the farmers' wives and daughters in this county, and was said by those who visited both this fair and the State fair at Centralia, to compare very favorably with the ladies' department in the State Fair. Some excellent thorough bred Durham cattle were exhibited, and from the interest now taken by the stock raisers in this county in purchasing the improved varieties of cattle, we predict a large increase in the number exhibited next year. The show of horses was particularly fine. Some of the best roadsters west, were on the track, among which we will mention "St. Lawrence" and "Granite State." A steam threshing machine was exhibited, which attracted the favorable attention of the farmers generally. The exhibition in the mechanical department reflects great credit upon the skill and ingenuity of our mechanics. Ex-Governor Reynolds delivered an address on the third day, which was listened to with marked attention. The number of people present on the last two days was estimated at 5,000. Inclosed you will find the address of Governor Reynolds. The Society elects its officers on the first Monday in March. The officers for the past year have been, J. C. Davis, President; T. D. Moore, Vice-President; Capt. T. C. Davis, Secretary; Wm. Waters, Corresponding Secretary; T. L. Loomis, Treasurer; David Gore, R. L. Taylor, Samuel Welton, Peter Denby, H. J. Loomis, Directors.

There has been paid into the treasury during the past year	$1,510 00
Disbursed during the same time	1,470 00
Balance on hand	40 00

From the wide spread and deep seated interest now taken by our farmers in the development of the resources of Macoupin county, we predict a brilliant future in store for us, and we intend to do our share in making Illinois the "Empire State," and a State where the farmers shall always enjoy that high social position to which their intelligence and their virtues entitle them.

THOS. C. DAVIS, *Secretary.*

ADDRESS, BY JOHN REYNOLDS,

BEFORE THE MACOUPIN COUNTY AGRICULTURAL FAIR, OCTOBER 7,1858.

Fellow citizens of Macoupin county:

This is a great and glorious day to advance the agricultural interests of the county, and long may it be remembered in the agricultural annals of Macoupin county! The improvement of the earth is the next great consideration, after the improvement of the human intellect.

Agriculture is in all ages, ancient and modern, and in all countries, the great foundation of all the wealth and prosperity of the people. There is no profession or pursuit of business so certain for the support of the human family as agriculture, and at the same time so certain to preserve the health and morals of the people engaged in the profession. Moreover, the great extent and fertility of the soil of Illinois, together with the almost boundless prairies covering the State in almost every direction, seems to advocate the interest of agriculture, and almost compels the cultivation of the earth.

Most of the other pursuits of life depend more on man for support, which is often precarious and uncertain; but the farmer depends on God and the earth, and they will not desert him if he performs his duty. Moreover, the cultivation of the earth is conducive to the health of the husbandman, and gives bloom and vigor to those, male and female, who are engaged in this ancient and honorable profession. A great portion of the female beauty now surrounding me on this occasion, arises from the agricultural pursuits of life; when the exercises of labor and amusements are enjoyed in the open air on the bare earth and in sunshine in good weather, the result is as it is now presented before me, the highest order of female excellence. A whole sea of female beauty, with vigorous health, sparkling eyes and intellectual charms are present in this assembly, giving life and vigor to the agricultural interest of the county. The same may be said of the male population attending this fair. They are the lords of creation and the bone and sinew of the country. They exhibit a display of manly vigor and intellectual excellence rarely equaled, all joining in with heart and hand to advance the best interests of agriculture. (Cheers of approbation.)

Agriculture is also the means of preserving the moral habits of the masses engaged in the profession, which is still more productive of human happiness than health itself. The husbandman on his farm is removed from temptation and from the means of immorality, and is surrounded with all the beauties and excellencies of nature, which will have a powerful influence to lead him in the ways of virtue and religion, without which he cannot be happy.

Land, labor and learning, as it has often been stated, are the great elements in agriculture, and Illinois presents the "land" unparalleled on earth for its great extent and unsurpassed fertility. There is no tract of country on the earth of the same extent of Il-

linois with such fertile soil, as is contained in the Prairie State; and the county of Macoupin, for its agricultural resources, is perhaps not much, if any, surpassed by any section of the State. I am no stranger to "the land" of this county, and know well its great resources. I have traversed this section of the country in every direction before three-fourths of this vast crowd of people present were born. In the fall of 1812, in the war of that year, I camped with the army under Gov. Edwards, on the Macoupin creek, a few miles above the present town of Carlinville, and saw the country at that early day, and for many years thereafter, a savage wilderness, inhabited by the Indians and wild beasts. And now what is Macoupin county? One of the best improved and most populous counties of the State. And almost all this wealth, and all this prosperous and happy population have arisen from efficient agriculture. At the early day in Illinois, mentioned above, no settlement of the white man existed from the sparsely settled colonies, near the present towns of Alton and Edwardsville, to the north pole, but the whole country was then a waste, in the hands of the savages. At this day, the whole northwest is settled by an intelligent and enterprising population almost to the very sources of the Mississippi and around Lake Superior. This unequaled progress of improvement and civilization has filled the hearts of the pioneers with joy to witness; not only the State of Illinois, but the whole northwest rise out of a savage wilderness to enjoy all the blessings of improvements and civilized life. (Cheers.) Nevertheless, my friends, agriculture is yet in its infancy in Illinois and Macoupin county. A small part only of the widely extended prairies of the country is yet in cultivation, and that cultivation not improved as it should be. Labor and learning must be exerted in connection to improve and produce the greatest results of agriculture. Man was created to labor. The scriptures say, "man must make his living by the sweat of his brow." All experience establishes this truth, and a violation of it will do injury to the unwise perpetrator. Thus labor being essential to the well being of the human society, this same labor should be made honorable and respectable. You, farmers, have it within your powers to elevate and to make labor assume the highest standing and honor that man can bestow on human occupation. There is in the country by law no castes, or grades, or nobility, and a laboring man, with proper standing and merit in other respects, should be honored and respected in the highest ranks of citizens. It should be considered an honor rather than dishonor to cultivate the earth; but, farmers, it depends on yourselves to make labor honorable by improving and educating yourselves and children, in order that you may occupy the front ranks in society. The reason farmers, mechanics and laboring men do not often fill the high offices is, that they do not improve their minds, and are not as competent for office as are sometimes found in other professions. There is no excuse for the majority of farmers in Illinois, that they have not the time to improve themselves in all the neces-

sary education of their profession. The improvement of the mind in agricultural science is the most profitable labor of the farmer, and will generally, in the end, increase the products of the farm more than any other efforts he can bestow on it. Mere physical strength, powerful muscles, without the necessary agricultural knowledge, will never effect any great good in the culture of the earth. The ox is a strong and powerful animal, but his agricultural labors must be conducted with judgment, or otherwise his strength is wasted to effect no good purpose.

It is not generally known that by an improved cultivation of the soil in Europe, the wheat crops are more than doubled in the old country to those raised in America on the same quantity of ground. It is estimated that the wheat crops on an average are fifteen bushels per acre in the United States, and in Europe they average nearly forty bushels to the acre. This great difference arises from better cultivation of the soil and the improvement of the land. If these statistical facts were strongly impressed on the minds of the Macoupin farmers, they would immediately turn their whole energies, mind and body, to the improvement of the cultivation of their farms and the manuring of their fields. I do, as the friend of agriculture, sincerely urge on my farming friends to read these agricultural statistics, comparing good and bad cultivation of the earth, and other books, and in a few years of improved cultivation the farms of Macoupin will produce double to what they do at this day. I do not urge on the people the necessity of farmers improving themselves in agricultural science without knowing myself that I am judicious and right in my counsels. I was raised on a farm from my earliest youth until the years of maturity, and I have to some extent studied and acquired agricultural knowledge during my whole life. Under these circumstances, *I know* I am doing right to urge on the agricultural community the great necessity and importance of the education of the farmers, and thereby the improvement of the cultivation of their farms.

Macoupin county is doing exceedingly well in the progress of agriculture. To-day, I am told, that by the report at the gate, there are present five thousand and four hundred people at this county fair, and the largest assembly ever I had the honor to address. I see around me not only an intelligent and energetic people, but I see also innumerable and various implements of husbandry and machinery that would require volumes to describe, all tending to the use and interest of agriculture.

But I must say, from observing the fact, that the good taste of the Macoupin farmers is bearing toward the noble and excellent animal, the horse. I am proud to say I see here on this occasion more splendid and elegant horses on exhibition than at any other county or State fair that I have seen this fall. And, my friends, permit me to urge on you a sympathy and kindness for this useful and noble animal, the horse, and in fact, also to the mules and oxen, *not to whip and abuse the animals that are under your charge*

and control; they are made for our use, but the power we exercise over them should be exerted in kindness and mercy to the animals. At times we see the hair and skin cut off the backs of these dumb animals in the traces by the whips of ignorant and merciless drivers. I charge none who are present and giving to this subject such attention—and some I see around me having tears of sympathy in their eyes—with this heinous crime of abusing animals, but I address you to raise public opinion, strong and firm against these inhuman outrages, and they will soon disappear from a christian and merciful community.

Much agricultural information is obtained at the fairs of the counties and the State. Intelligent people assemble together, interchange sentiments and thereby instruct each other. The spectators also see and examine minutely the various new and important articles of husbandry, and all go home an improved and happy people by attending the fairs.

I must be indulged in recommending to you in the warmest terms, the two last published volumes of the Transactions of the State Agricultural Society, which were printed at the public expense. These books should be read and studied by all the farmers in the State, and millions of dollars would be added to the products of the State by pursuing the practical information presented in those volumes.

In concluding this address, I must sincerely recommend and urge on the public to establish an Agricultural Bureau or Department in the State Normal School at Bloomington. A part or half of that institution should be applied to the agricultural interests of the State. It is almost as necessary to educate farmers at the public expense as school masters, and both should be educated together, or neither.

Farmers, you have the power in your own hands to do yourselves great service, and much more benefit by improving your farms than you enjoy at present, and I sincerely hope you will exert your talents and energies to advance your own best interest and that of our State. (Loud cheers of approbation.)

MENARD COUNTY.

Officers for 1858:

President—E. L. Sweeny.
Vice-President—James S. Moore.
Treasurer—A. K. Johnson.
Secretary—John Hill.
Directors—Wm. C. Smoot, Geo. Hudspeth, J. H. Armstrong.

Menard county fair was opened on the 21st September, and continued four days. This was a new feature in the fair, the last fair having only lasted three days. The grounds are located about a

quarter of a mile south of Petersburg. On entering, you descend over a gradual slope through gates, into the inclosure, and have at once presented to your view a beautiful amphitheatre. On the right hand a circle of undulating hill slopes stretch from the front to the rear of the grounds, met by a corresponding picture from the opposite side, only separated by a small spring through which passes a small stream of pure spring water, amply sufficient for stock. The slopes on either side are dotted with occasional groups of shade trees, and add a further beauty and finish to the panoramic view. On descending from the slope you enter the fair grounds, which are about three-quarters of a mile in circumference. In the centre of the ground is situated the officers' stand, around which is a double ring for the exhibition of stock. The small ring is about two hundred yards and the larger near three-quarters of a mile in circumference. The stalls and show-sheds are conveniently arranged. Nature has done much for the grounds. They are indeed strikingly beautiful, and when art is applied to their improvement, so far as the Menard fair grounds are concerned, we shall have little more to desire.

On the first day there was a large gathering of people on the grounds. The entries in the ladies' and miscellaneous departments having been promptly made, and the awards were made in the after part of the day. In other departments, it was found necessary to extend the time for making entries. The crowd dispersed at night, well satisfied with the day's exhibition, and anxious to see the shows of to-morrow.

By 10 o'clock of Wednesday the grounds were again crowded with spectators. The halls were filled with various articles on exhibition. At 1 o'clock the show of cattle commenced, and there was such a show as would have done credit to any county in the State. Some of the premiums were carried out of the county, but most of them were taken by citizens of Menard, from which we draw the conclusion that Menard county has not only some of the best stock in the State, but that she has a large amount of fine stock, which is leaving its mark upon the stock and herds of the county. With this exhibition closed the proceedings of the day.

On the third day the horses were exhibited and other stock. The interest of the fair was kept up to the close of the day.

On the fourth, there was a general exhibition of all stock—a general examination of all the articles on exhibition. The premiums were paid, and the fair closed to the general satisfaction of all concerned. The fair was the most successful which has been witnessed in Menard county.

JOHN HILL, *Secretary.*

MORGAN COUNTY.

Officers for 1858:

President—Robert Pollock.
Vice Presidents—William Richardson, Peter Roberts, H. F. Fitch.
Treasurer—Irvin Dunlap.
Secretary—Ed. Scott.

The eighth annual fair of the Morgan County Agricultural Society was held at Jacksonville, on the 28th, 29th and 30th September and 1st of October, 1858, on the grounds of the Farmers' and Mechanical Association; they having sold their old grounds, and having purchased of Col. James Dunlap more eligible grounds, consisting of thirty acres, beautifully located, with desirable shade trees. The grounds are well adapted for the purpose.

The weather was cool and pleasant during the whole fair.

The first day of the fair, articles in the ladies' department, seeds, fruits and vegetables were exhibited, and also a special premium of fifty dollars in silver plate, to be awarded to the fastest pacing horse, mare or gelding, and twenty-five dollars in silver plate for the second.

By 9 o'clock in the morning, there were several hundred persons on the grounds. The articles in the ladies' department were well represented, there being a handsome display of silk, worsted and other quilts, oil paintings, water colors, crayon, shell work and ornamental paintings, and also needle work, collars, toilet cushions, pin cushions, silk and worsted embroideries, crochet work, fancy and plain sewing by ladies and girls from seven years old and upwards, and other articles too numerous to mention.

In our seed, fruit and vegetable department, there was but a small number of entries. The display of fruit was small but very good. There were some as fine peaches on exhibition as I ever saw. There were also some gooseberries on exhibition, one of which measured three inches in circumference. There were fine specimens of potatoes and tomatoes, which were well worthy of premiums, and spoke well for the culture of those vegetables.

In the dairy department, the butter and cheese were well represented, all of which were of excellent quality. There was a fair display of pickles, preserves, jellies, cakes, etc. Last and not least in this department was the exhibition of native wines, of which there were a variety of kinds, which, after due deliberation and thorough tasting, to test its quality, at different times, by the awarding committee, on a re-examination, made their awards. The number of people in the afternoon having increased, to witness the fastest pacer, which was to come off at the close of the first day of the fair, which appeared to animate the crowd to see the fast horses. There was but two entries, the first premium

being awarded to *Lulu*, belonging to John Amos, Esq., of Greene county; the second to *Jim*, belonging to F. M. Springer, Esq., Jacksonville. This closed up the exercises for the first day, all quietly, without accident of any kind to interrupt the pleasure of the day.

SECOND DAY OF THE FAIR.

The second day of the fair, cattle were exhibited, at the close of which the fastest trotting, by horse, mare or gelding, was to come off.

The show in thorough-bred cattle was not any larger than former years, but it was thought by judges that, for number, they were the finest lot that had ever been exhibited in Morgan county. Those that appeared to attract the most attention were owned by Stephen Dunlap, Pollock & Ritter, Elliott Stevenson and Becraft.

Class A, No. 2, Natives and Crosses, were not as well represented as the thorough-breds. In work cattle there were but few entries. There were but two herds shown, one was owned by Stephen Dunlap and the other by R. Pollock and E. Stevenson. This was, decidedly, the finest ring of cattle that was ever before exhibited in old Morgan. After a close examination, by the awarding committee, the first premium was awarded to the herd belonging to S. Dunlap.

At the close of the second day, came off the fast trotters. The crowds all anxious too witness the scene. There were five entries made in this ring. The president called the directors together, and the following disinterested awarding committee was appointed: H. Jacoby, Sangamon county; John McLuskey, Scott county; Ellmore Crow, Cass county; J. C. Bone, Sangamon county, and W. C. Dawson, Menard county; when the chief marshal instructed the committee to make their award to the fastest trotters.

The track round the grounds is half a mile. After the first round, one of the horses was ruled out by the committee, on account of his gait. After the second round, the committee ruled out another of the horses on account of foul driving, leaving but three to contend for the premiums, of which *Little Jim*, owned by A. G. Link, Jacksonville, was awarded the first premium of fifty dollars, in silver plate, and *Morgan Messenger*, owned by L. R. Sanders, was awarded the second premium of twenty-five dollars, in silver plate, which closed the exercises of the second day of the fair.

THIRD DAY OF THE FAIR.

Horses, jacks, jennets and mules were exhibited. Class B. No. 6, Thorough-bred Horses—there was a fine ring of aged stallions; the imported *Young Barnton* taking the first premium. The entries of one, two and three year olds was not large, the probable

reason being that those entered defied competition. There was a splendid ring of thorough-bred aged mares, there being four entries. *Mary Ellen*, owned by H. F. Fitch, was awarded the first premium, and *Rosebud*, owned by Col. Jos. Morton, the second.

Class B, No. 7, Horses of all work. This class of horses was well represented in every ring, it being the general opinion of horsemen on the grounds, that this was the best ring shown in this class that had ever been shown in the State.

Class B, No. 8, Draught Horses, were not so well represented as the horses of all work, excepting in aged stallions and aged mares, both of which were well represented.

Class B, No. 9. There were four entries in carriage horses, all of which attracted attention. The buggy horses created quite an excitement, there being nine entries, all showing off in fine style. The saddle, trotting, pacing and racking horses made a fine display.

Class B, No. 10, Jacks and Jennets. There were very few entries. This class of stock did not appear to attract much attention. There were not many mules shown; those that were shown were considered hard to beat.

Class B, No. 11, Sweepstakes Horses. There were two handsome rings: one, stallions of any age or breed, the other, mares of any age or breed. These rings were decidedly the finest rings of sweepstakes that have ever been shown in Morgan county. This wound up the third day of the fair, there being more persons in attendance than on the former days.

FOURTH DAY OF THE FAIR.

There were exhibited hogs, sheep, poultry, manufactures and also a special premium of a twenty-five dollar silver pitcher, to be awarded to the best lady rider, and a twelve and a half dollar locket, for the second best. The hogs were well represented from Morgan and surrounding counties, better than ever before at our county fair; many of which were sold to other counties during the fair, as old Morgan has always been noted for good hogs. The sheep were not so well represented, but those that were shown were of a superior quality.

Manufactures were not as well represented as expected. Most of what was shown in this line was of a very superior quality, among which are the following: wagons, carriages, double and single harness, gentlemen and ladies' saddles, boots and shoes. There were also a number of agricultural implements, such as reapers, mowers, corn planters, seed drills, gang plows, etc., all of the latest improved machines. There were also two underground ditchers; the awarding committee, after testing them the following day, awarded them both a diploma, reporting that they both done their work well.

All the above awards having been made before dinner, the excitement began to be manifested in the crowd to see the lady riding. By 2 o'clock, I should think, including ladies, gentlemen

and children, there were ten thousand persons on the ground. After dinner, Judge Wm. Brown delivered the annual address, which was but short, yet highly appropriate to the occasion, and was delivered in an eloquent manner. The military and fire companies, having been invited, were escorted within the arena, with the brass band that had been playing for the fair and the martial music, created quite an imposing feature. There having been five entries for ladies to ride, the chief marshal, Col. Morton, escorted them into the ring. The awarding committee were appointed from a distance, only one of whom resided in Morgan county. As the ladies rode several times round, the outsiders all began to have their favorites; some thought one ought to have the first premium, and some, another. The committee took some time to make up their award, but finally awarded the first premium to Miss Kate Robb, of Jacksonville, and the second to Mrs. F. M. Dunlap. The awarding committee reported them all excellent riders, whereupon the directors awarded the other three, Mrs. Hulett, Miss Laura French and Miss Jane Stevenson, before leaving the ring, each a ten dollar silver cup, which appeared to give general satisfaction to the outside crowd.

The chief marshal, Col. Jos. Morton, returned the thanks of the Society to the audience, and particularly to Captain Parsons' military company and the Jacksonville fire companies, for their presence and aid during the afternoon entertainment; whereupon the fair closed, no accident having occurred during the whole fair. All appeared to return home generally satisfied.

The amount of premiums paid out by the Society, this year is abought eighteen hundred dollars.

Financial report of the secretary of the Morgan County Agricultural Society:

1858. *Ed. Scott, Secretary, in account with Morgan County Agricultural Society.*

Dr.

To cash received for tickets sold before fair		$191 00	
" " entries		614 35	
" " booth rent		25 00	
" " ticket agent, at gate		1,212 00	
Total amount of receipts			$2,042 35

Cr.

To amount of cash paid for premiums		$1,132 24	
" " " sweepstakes		72 50	
" " in hands of committee on premiums, to pay balance on premium bill		169 66	
" " paid gate keepers		24 00	
" " " ticket agent		16 00	
" " " police		54 25	
" " " printing circulars, special premium		2 00	
" " " for rosettes for officers		5 30	
" " " express charges on premiums and diplomas		1 90	
" " " for furnishing feed on ground, for stock		14 00	
" " " James Green, treasurer of association		550 00	
Total amount paid out			$2,042 35

The above is the financial report of all moneys received and paid out by the undersigned.

ED. SCOTT,
Secretary Morgan County Ag. Society.

MOULTRIE COUNTY.

The citizens of Moultrie county, having held a previous meeting for the purpose of taking the necessary preliminary steps for the organization of a county agricultural society, met at the court house, in Sullivan, on the —— day of May, 1858, to complete the organization of the "Moultrie County Agricultural Society," which they did by adopting a constitution and by-laws, drafted and reported by a committee appointed for that purpose, and electing the following officers: President, J. W. R. Morgan; Vice President, D. Patterson; Corresponding Secretary, E. E. Wagoner; Recording Secretary, D. D. Randolph; Treasurer, E. Bridwell; Directors, John Rhodes, M. Kliver, S. M. Smizer, A. H. Brown, John Roney.

The Society held its first annual fair on the 21st and 22d days of October, 1858, near Sullivan, in an open lot, (the Society being not yet able to purchase and fit up fair grounds,) at which there was a very respectable amount of stock, fruits, mechanical and domestic manufactured articles. One hundred and thirty-seven dollars were paid in premiums. Moultrie is a small county, and this was its first fair.

E. E. WAGGONER, *Cor. Sec.*

McLEAN COUNTY.

Officers for 1858:

President—Jas. Kennedy.
Vice-Presidents—Edward Porter, Wm. P. Withers.
Secretary—C. W. Holder.
Treasurer—Wm. Paiste.

The McLean County Agricultural Society held its sixth annual fair on the 15th, 16th and 17th of September. The Society owns a tract of ten acres of land, within a mile of Bloomington, suitably inclosed, where its annual exhibitions are held. The amount of premiums offered, $800; most of which was paid in plate.

For want of suitable accommodations, the stock is not kept on the ground the whole time of the fair—a custom which diminishes

very much the interest of the exhibition, and which the public spirit of our farmers will soon remedy.

The number of entries in the Ladies' Department was	89
Thorough-bred Cattle	63
Mixed and Native	88
Horses and Colts	164
Jacks and Mules	17
Swine	21
Sheep	25

Also, a very creditable show of agricultural implements, wagons, harness, &c.

A silver goblet, worth $25, was awarded to Henry Lusk, for the best cultivated farm.

The premium for the best quarter of an acre of Irish Potatoes was awarded to Thomas and Wm. Karr; product, 77½ bushels.

The best five acres of wheat, premium to John Stagner; 37¾ bushels per acre.

Best five acres corn, premium to J. H. Fielder; 92 14-56 bushels per acre.

Messrs. A. & O. Barnard raised 102 17-56 bushels per acre; but not reported in time to compete for the premium.

JAMES KENNEDY, *President.*

C. W. HOLDER, *Secretary.*

McHENRY COUNTY.

The seventh annual exhibition of this Society was held at Woodstock on the 13th, 14th and 15th October, 1858. The exhibition was larger than at any previous fair, and the great increase in the number of articles exhibited shows, conclusively, that the interests of the Society require more enlarged accommodations the coming year.

The attendance at the fair was much greater than at any previous one, and indicates that the Society has become firmly established in the hearts and confidence of the community, and that it will receive from the citizens of our county a support commensurate with the interests it is designed to promote.

Premiums were awarded for draught horses; matched and saddle horses, stallions, Durham cattle, Devon cattle, grade cattle, jacks, mules and jennies, sheep, poultry, agricultural implements, cabinet ware, farm products, butter and cheese, sugar and syrup from cane, domestic manufactures, needle and shell work, &c., boots, shoes, harness, saddles, paintings and drawings, worked metals of American manufacture, fruits, vegetables and currant wine and miscellaneous articles.

Col. Capron's incomparable herd of Devon cattle was present.

H. BATES, *President.*

GEO. T. KASSON, *Secretary.*

PEORIA COUNTY.

An agricultural society existed in Peoria county some five years previous to 1857; and the farmers and mechanics, becoming convinced of the importance of such an institution, and desiring to see said institution established upon a firm and permanent basis, obtained from the state legislature a charter regularly organizing the Peoria County Agricultural Society.

In pursuance of that charter a call was made for the citizens to meet at the court house, in the city of Peoria, on the 27th day of April, 1858, for the purpose of reorganizing the Peoria County Agricultural Society, in accordance with the act of the legislature of this state, passed at its last session. The meeting was numerously attended; and, on motion, Mr. Alva Dunlap was called to the chair and Geo. B. Parker appointed Secretary.

A large number of citizens came forward and became members of said Society, by paying one dollar into the treasury, the amount agreed upon by the meeting, in order to entitle them to take part in forming a constitution and by-laws for the rules and regulations of said Society.

After framing the constitution, and by a unanimous vote adopting the same, it was, on motion, moved and adopted that we now go into the election of officers for the present year; whereupon, the following named persons were duly elected (by ballot) the officers of the Peoria County Agricultural Society until the first Wednesday in December, 1857; at which time our regular annual election comes on for the election of officers, according to our adopted constitution.

After several ballotings, the result was as follows: President, Henry I. Chase; Vice-Presidents, Chauncey C. Wood, of Peoria; E. H. Clapp, of Rome; L. L. Geiger, of Brimfield; Corresponding Secretary, D. McCullough; Recording Secretary, Geo. B. Parker; Treasurer, H. G. Anderson.

Previous to the reorganization of the Society the supervisors of the county of Peoria, with their accustomed liberality, had purchased twenty-three acres of ground adjoining the city limits, to be used by the Society for the purpose of holding agricultural exhibitions upon so long as they remained in existence as a Society, and to be under the entire control of the Society, at a cost of $2,000.

The Executive Committee of the Peoria County Agricultural Society, having extended an invitation to the Executive Committee of the Illinois State Agricultural Society to hold their annual meeting of said State Society at the fair grounds, in Peoria, on the 21st, 22d, 23d and 24th of September, 1857; and they having accepted the invitation upon certain conditions; which conditions were complied with at an expense of fifteen thousand dollars, in building houses and stalls for their accommodation.

In consequence of the holding of the state fair in Peoria in the fall of 1857, it was thought advisable and prudent, by the Execu-

tive Committee of the Peoria County Agricultural Society, to postpone the regular yearly exhibition of the Peoria county fair until 1858.

As the transactions of the Illinois State Fair, for 1857, will be published in this volume, I will refrain making any comments upon the exhibition of stock and manufacted articles on exhibition at that time, knowing that the able and energetic Recording Scribe, S. Francis, of the Illinois State Agricultural Society, will vividly portray the interest manifested on that occasion, and do ample justice to the citizens of the central city of Illinois in their untiring efforts to accommodate the vast multitude that was in attendance on that occasion. Suffice it to say that it was a grand and successful effort, and one that the good citizens of Illinois will long remember and appreciate.

At the annual election of officers for the Peoria County Agricultural Society, held at the court house, in the city of Peoria, on the 2d day of December, 1857, the following persons were selected as officers for the ensuing year, viz: President, Henry I. Chase; Vice-Presidents, E. H. Clapp, C. C. Wood, Alva Dunlap; Corresponding Secretary, John McDonald; Recording Secretary, Geo. B. Parker; Treasurer, H. G. Anderson.

At a meeting of the Executive Committee of the Peoria County Agricultural Society, held at the office of the Recording Secretary, in Peoria, it was ordered that the annual exhibition of the Peoria County Agricultural Society, for 1858, be held at the fair grounds, on the 21st, 22d, 23d and 24th days of September, 1858, and that we invite a free competition, from any part of the state, in articles for which premiums are offered.

The entry books were kept open until Wednesday the 22d of September, 1858, 6 o'clock P. M., at which time there were eight hundred and ninety-three entries made in the different classes. On Friday, the 24th, at 12 M., the premiums were distributed from the music stand, in the centre of the grounds, at which time there were present some five thousand people, and among that number about one thousand ladies, all anxiously awaiting to hear their names called out in connection with a premium, be it ever so small; and I will here say that the ladies shared largely in the plate distributed on that occasion, to the great satisfaction of all present. The awarding committees, with some few exceptions, gave general satisfaction; and when they did err, it was an error of the head and not of the heart, as all were willing to admit. Our fair was one of interest, and was conducted in a manner satisfactory to all. We have at last arrived at that point that the farmers, the mechanics, merchants, and last, though not least, the *ladies*, take a deep and abiding interest in the prosperity of the Peoria County Agricultural Society; and from this time forward we have nothing to fear as to its ultimate success, and that it has become a living, thriving and permanent institution.

I cannot conclude this report without tendering, in behalf of the citizens of the county of Peoria, their sincere thanks to the members of the Executive Committee of the Peoria County Agricultural Society for their untiring exertions in establishing this institution on so firm a basis, which has now and will ever prove an ornament and a blessing to the state and county in which it is located.

GEO. B. PARKER, *Recording Secretary.*

PIKE COUNTY.

Deeming our County Agricultural Society an auxiliary of the State Society, I send you a short account of our doings for the past year, and I do this the more cheerfully because I think our experience can be of benefit to societies in other counties that are languishing through ignorance of what is necessary for their permanent success. And I lay it down here as an axiom, well proven and established, that no society can prosper that does not own, in fee or by lease, a good fair ground. Last fall we held our seventh annual fair, upon our own ground, and we witnessed then a confidence in our success on the part of our friends that we had never seen before. At the April meeting, 1858, of our county board of supervisors, we solicited an appropriation from the county, to enable us to buy a fair ground; which request was refused on the ground of want of power on their part to appropriate the funds of the county for such an object. Our Society then had about eighty dollars in the treasury, and but numbered among its members most of the leading farmers of the county; still we had nothing certain to rely upon to pay premiums and expenses; we had year after year put forth a premium list, trusting solely to the entries for premiums to meet our outlays, and although we had always come out right, yet the State appropriation was for one or two years all that saved us from debt. The friends of the Society felt unwilling to go on in this way any longer, and determined to buy a fair ground and inclose it at once. Backed by a liberal subscription on the part of the citizens of Pittsfield and vicinity, the directors purchased twelve acres of ground, beautifully situated for a fair ground, near town, at seventy-five dollars per acre, payable in four years, with annual payments. They inclosed it with a tight board fence, eight feet high, held their fair in October, and now find themselves only one hundred and thirty dollars short of paying all expenses, including the first payment for the ground. The receipts at the gate, for stands, membership tickets, &c., exceeded seven hundred dollars, while in all former years we have not averaged two hundred and fifty dollars. We feel now that we are all right, and going ahead in a way that will enable us to have in a few years one of the handsomest fair grounds in the State. We are

fully incorporated, have quite a large number of life members, at twenty-five dollars a membership, and have with us the good wishes and aid of all our best farmers. And this results from the possession of a fair ground of our own, a nucleous around which we can all gather and aid in increasing. Let me say to all county societies, do not move a step further until you have a fair ground of your own, and do not be afraid to run risks in getting it, for it will draw to you friends enough to pay for it.

We held our annual election Wednesday, January 7th, and our officers for ensuing year are as follows: J. M. Bush, President; Thomas Bradbury, T. Odiorne, Vice-Presidents; D. D. Hicks, Recording Secretary; R. C. Scanland, Corresponding Secretary; Thomas A. Hubbard, Treasurer; B. F. Westerlake, A. Barber, W. M. Goodin, John Helm, D. A. Fagan, Directors.

D. D. HICKS, *Secretary.*

RANDOLPH COUNTY.

Officers for 1858:

President—John A. Wilson.

Vice-Presidents—Garvin Becket, A. Steele, James M. Brown, Joseph Williamson, G. U. Stanley, Wm. Mudd, Wm. Rutherford.

Secretary and Treasurer—Wm. Addison.

Previous to 1858, though the people attended the fairs and exhibited from all parts of the county and neighboring counties, those who had not taken the deepest interest in its success and prosperity had been mostly confined to one corner of the county. But now that the institution has become a "fixed fact" and the committee of the Society had purchased and paid for land for a permanent fair ground and other purposes of the Society, at the annual meeting in Sparta, 8th January, 1858, it was resolved to amend the constitution, so that instead of one there should be eight vice-presidents, or as near as might be one from each voting precinct of the county, and that the officers for 1858 should be elected by ballot. The officers for 1858 were then elected. The executive committee took active measures to have the new grounds of the Society cleared off and fenced and wells dug, and other permanent improvements made. They borrowed money and raised subscriptions. The land had been timbered, and there are still a few monarch oaks scattered through the grounds, but there were groups of young saplings, oak, hickory, and occasionally single trees scattered about, many of which were left for ornament and shade. The grounds are most beautiful and well adapted to the purposes of fairs.

The fair of the Society was held upon these grounds on the 6th and 7th October, 1858, and it was best—most brilliant that ever

came off in the county. It was calculated that there were between six and eight thousand people present on the two days. The amount taken for entries, member's fees and at the gate was over one thousand dollars. The number of animals and articles entered was between four and five hundred, of these over one hundred were horses and mules. The amount of premiums, including field crops, was nearly four hundred dollars. The outlay for grounds, clearing, fencing, buildings and fair, has been about $2,200. Did not the committee wish to make more improvements on the grounds, they would now, by subscription, pay off all the Society's indebtedness.

Altogether, Randolph county has reason to be proud of her Agricultural Society. It was among the first in the State, and the very first in Egypt, and by progressing and increasing as she has done, she can make her fairs, and her fair grounds, and her Agricultural Society an honor and pride to old Randolph county and the glory of southern Illinois.

WM. ADDISON, *Secretary.*

ROCK ISLAND COUNTY.

Officers for 1858:

President—John M. Gould.
Vice-Presidents—A. S. Coe, W. L. Brunot.
Corresponding and Recording Secretary—D. F. Kinney.
Treasurer—Jacob Sailor.
Executive Committee—Jacob Hope, Cordova; Wm. C. Pearsoll, Penn; A. N. Philleo, Port Byron; Isaiah Marshal, Canoe Creek; A. H. Talcott, Zuma; S. L. Bretton, Hampton; H. F. Sickle, Moline; A. F. Cutter, Rock Island; T. J. Medill, Black Hall; John M. Wilson, Coal Valley; J. E. Kelly, Bowling; D. C. Clelland, Edgington; Daniel Degraff, Buffalo Prairie; Isaac B. Essex, Drury; John Whitsitt, Mercer County; James Glenn, Henry County.

The annual fair of Rock Island County was held on the 23d and 24th days of September, 1858. There were 385 entries, and a fair proportion of horses. Of cattle the entries were less than at some former fairs, but were good, most of them being full blood Durhams. There were very fine specimens of hogs and fowls on exhibition. There were also fine wagons, splendid plows, and many other agricultural implements. Excellent articles from the dairy were present. The ladies' department, embracing needle work, &c., was well supplied. The products of the farm were very fair, and the exhibition of flowers good.

There is an increasing interest for the success of our County Agricultural Society, still our farmers, as a mass, do not give it

that support which we have a right to expect from them. The receipts at the fair amounted to $445, which was all paid out in premiums and expenses. An excellent address was delivered by E. H. Bowman, Esq. For two years we have paid our premiums in books, periodicals and plate, but we are satisfied it does not give so good satisfaction as to pay in money. We have also given diplomas, but these do not secure entire satisfaction.

D. F. KINNEY, *Cor. and Rec. Secretary.*

SANGAMON COUNTY.

Officers for 1858:

President—James N. Brown.
Vice-Presidents—H. Jacoby, A. B. McConnell.
Treasurer—S. M. Parsons.
Secretary—S. Francis.

The fair of this county was held on the 5th, 6th, 7th and 8th days of October. The first day was unpleasant, and there was but a small attendance. A threatened storm on the morning of the second day kept many of our country friends away. The third and fourth days the grounds were thronged. The entries were about the same as last year, in the aggregate, though there was a very small show in the Fruit Department. The stock were very choice. Some of the stock which took the highest premiums at the State Fair were present.

J. H. Spears, of Menard county, took the first premium for the best aged Durham bull, *Master Lowndes;* T. L. S. McKinney, the first premium for bull of two years; J. N. Brown, first premium for bull calf, *Lord Alexander;* best aged cow, *Lady Harriet*, J. H. Spears; best cow of 3 years, *Rachel 2d*, J. N. Brown; best cow of 2 years, *Emerald*, J. C. Bone; best under 2 years, *Lady Francis*, J. N. Brown; best heifer calf, J. P. Henderson, of Morgan.

Best thorough-bred stallion, *Young Barnton*, Jacoby, Sanger & Co.; second best, *Glencoe*, Peter Roberts, Morgan; best thorough-bred mare, *Fashion*, Phil. Warren; best 2 years old, *Delia*, Phil. Warren; best under one year, *Red Bird*, J. Morton, Jacksonville; best jack, *Franklin Todd*, J. A. Pickerell; best jennet, *Mohawk*, Alfred Allen; best French buck, *Anti-Lecompton*, A. B. McConnell; best pen of five French ewes, A. B. McConnell; best pen of five ewe lambs, John McConnell; best Cotswold buck, C. W. Price; best pen of five Cotswold ewe lambs, E. F. Iles.

Best boar, 18 months old, *Siddington*, J. C. Crowder; best over eight months old, J. B. Morrison; best sow over 18 months, J. B. Morrison; best sow 8 months, J. C. Crowder; best under 8 months, E. N. Tainter; best litter of pigs, J. Stockdale; best lot of hogs, (sweepstakes,) J. C. Crowder.

LADY FRANCIS.

Light roan. Bred by and the property of James N. Brown, Grove Park, Berlin, Sangamon county, Illinois. Calved October 26, 1856. Got by imported Townley, 2305, out of Sally Campbell, by Renick, 903; Lizzie Higgins, by Goldfinch (3909); Caroline, by Goldfinder (2066); Milkmaid, by Oliver (2387); Spot, by Mohawk (4492); ——, by San Martin (2599); ——, by Paul Jones (4661); ——, by Buzzard (3253).

Lady Francis was a premium calf at Peoria fair, and a premium heifer at Sangamon fair, 1858.

[Face page 274.

The exhibition in the ladies' department was unusually fine and well displayed. The whole exhibition was very satisfactory. The receipts at the gate were over $1,800; the premiums paid were near $1,200; and expenses about $300. The reduction of entry fees to one-tenth of the premiums offered, and the entry by ladies of their articles free, reduced the amount of receipts. The policy, however, has strong advocates; and it is now proposed to abolish all entry fees. It is supposed that this measure would greatly increase the number of entries, as well as visitors, to the fair. The plan adopted of selling badges to families, at $2, did not work well. These badges were re-sold, as it was ascertained, in several cases. All the officers, clerks and stockholders performed duty at the fair without charge to the Society, with the object of saving means to apply to the Society's debt.

S. FRANCIS, *Secretary.*

STEPHENSON COUNTY.

Officers for 1858:

President—C. H. Rosenstiel.
Vice-Presidents—John A. Davis, C. Van Brockler, Charles F. Taggart.
Recording Secretary—D. H. Sunderland.
Treasurer—E. Ordway.
Corresponding Secretary—Wm. G. Gray.

The Stephenson County Fair was a distinguished success. The fair days were the 6th, 7th and 8th of October. The first day, Wednesday, was wet and cold, and the friends of the fair felt great anxiety for the result. It rained in the night, but Thursday morning the sky was clear of clouds, but the wind was piercing. The officers of the Society resolved to continue the fair another day, closing it on Saturday. The people poured in on Thursday, in crowds, and at night it was found that the entries were more numerous than usual, and the receipts at the gate satisfactory. At 2 o'clock, P. M., Dr. Pennington delivered an excellent address. On Friday the wind continued to blow; ice formed the previous night, and the exhibition of flowers was nearly destroyed. The Department of Fine Arts contained many choice paintings, Ambrotypes and Ivorytypes. Of Flowers, there was a handsome display. There was a good show of Apples. Mr. L. Montague, nurseryman, exhibited seventy-five varieties. There were boxes of Honey, Wines, Jellies, Preserves, &c., &c. There was a most beautiful display of Evergreens, by J. C. Allen. The Department of Needlework was not well filled. In the Stock Department there was decided evidence of improvement. Of Durham, Devon, Hereford and Grade Cattle, there was a good exhibition; and the

same may be said of Sheep and Swine and Poultry. The Aricultural Implements exhibited were numerous; Threshing Machines, Horse Powers, Manny's Prize Reaper and Mower, Plows, Sugar Mills, Broadcast Sowing Machines, Corn Shellers, Manny's Self-Raking Mower and Reaper combined, Clover Huller, Rotating Harrow, &c., &c. Premiums paid about $800.

RIDOTT TOWN FAIR.

This is a town fair of Stephenson county. It took place on the 1st day of October, at Ridott Centre. The morning was rather cloudy, but it cleared off and was pleasant. The officers of the Society were early at their posts, and were admirably seconded in their efforts by the inhabitants of the town. The Town Hall was well filled with a large variety of excellent vegetables for the season. There was a large display of Seed Corn and a great variety of fancy articles. Some excellent syrup was shown, made from the sorghum and a small sample of the sugar. The mill that crushed the cane was also shown. It was made by a farmer of the town, and is a cheap and effective mill, and one that every farmer can afford to have, even if he only makes syrup enough for the use of his family. The show of Apples was far beyond expectation, and effectually proves that the severe winters we have had have not destroyed all the fine fruit. The show of Horses was large, and included many valuable animals. The young Colts were very fine, and some superior matched spans were shown. There was a large show of Cattle, and the Grade Durhams and Devons were an evident improvement. There were several yoke of excellent working cattle shown. C. H. Rosenstiel delivered an excellent practical address, and especially wished farmers to unite in clubs, and combine for various purposes. He showed how little benefit the farmers derived from legislation, and how different it might be if they took the right course. He urged farmers to raise more of the small fruits, such as Strawberries, Raspberries, Blackberries, &c., and said they would find themselves a thousand times repaid for their trouble, as they were especially conducive to the health and comfort of the family. The various committees were promptly at work, and performed their duties satisfactorily.

HERBERT BLAKELY, *Secretary.*

ADDRESS, BY DR. PENNINGTON,

BEFORE THE STEPHENSON COUNTY AGRICULTURAL SOCIETY, OCTOBER 7TH, 1858.

Farmers of the County of Stephenson:

I am proud to meet you here to-day, for with you I have a common interest and a common cause. My hopes and my prospects with you are identified. I come not to you with flattering or unmeaning words, but to speak of our advantages and disadvantages —of our rights and of our wrongs.

In attempting to address you, I am not so vain as to suppose that one so little accustomed to public speaking as myself can interest you by any display of eloquence.

What I have to say is the plain language of a farmer. Unworthy, however, of the *name* must be the *man* that, after living almost a quarter of a century in a new and untried soil and climate, cannot relate, with some degree of interest, the story of his experience.

On every side do I see the pioneers of agriculture. The battle of many a year of toil have you manfully fought. The improvements and comforts around your homes attest your industry. Your children will enjoy these benefits conferred, but I fear cannot duly appreciate this conversion of the wild and uncultivated prairie into the comforts and blessings of happy homes.

We stand here, to-day, where but a few years since the wild beast, or man still more wild, roamed at large. Now do we behold this city of many thousands, enjoying all the appurtenances of a high civilization.

What, I would ask, has accomplished this great change? You will readily answer, the cultivation and improvement of this surrounding country. And you will as readily say that it is this which must keep alive the many growing cities of this broad valley.

I do not mean the mere tilling the soil, but that judicious application of science with skill which must, at no distant day, rank the farmer's calling, not only as vital to the interests of the state, but in rank *honorable*, so much so that it shall be the pride of every American citizen to say, I am a cultivator of the soil—I am a farmer.

This high distinction, however, cannot be gained until our position for intelligence and worth shall entitle us to so honorable a place.

This vast multitude of mixed races which now constitute our people will, ere long, assimilate and become one. And this climate, although at times cold and uninviting, all tends to make strong that arm for labor, and prepare the mind for those great enterprises for which we, as a people, if not already, must sooner or later become distinguished.

The evidences of the farmer's progress are before us to-day. What heart does not dilate with pleasure at the contrast of this exhibition, especially in implements of agriculture, with that which it was the fortune of many of us to see fifteen years since? And yet our aims are higher.

To mitigate the asperities of toil and facilitate production now claims the attention of our best minds and the highest aspirations of our people.

The warrior's plume may grace many a brow, the highest distinction in political life may be gained, but there is a victory achieved and a tribute won by such men as Manny, McCormick and many others, which will be as enduring as the benefits which their inventions have conferred.

Who does not see in the future a consummation of these high hopes? Every year is a year of progress. And when, since the art of printing or the improvement in the uses and appliances of steam, has there been one that will mark a brighter page in man's history?

The year 1858 will record with us the introduction of the steam plow—the ultimate results of which to agriculture what prophet can foretell?

Another is the successful laying of the Atlantic cable, connecting thereby the destinies of the old and new worlds. It has failed and may fail again—such was the early history of the steam engine; yet every failure, like the battle of the Romans with Pyrrhus, was a victory.

With this work (extension of electric telegraph) the ancient world with her seven wonders had nothing to compare. The Colossus of Rhodes, the walls and hanging gardens of Babylon, and the pyramids of Egypt, all these have or must, in a limited time, crumble into dust; but this work, (the extension of the electric telegraph) like that of the art of printing, which has for its object the expansion of the human mind, must live. Barbarism may spread over the world and crush out the present light of civilization, but these lights, like the mind itself, shall continue to exist, and only die with the hopes of our race.

Shall we not continue to expand this rising mind, and prepare it for that great work which now lies before us? The voice which I expect to hear from this assembly and from the broad prairies of this State is: Educate, Educate. We will educate.

Not only individuals but States are rising in this great work; and I doubt not but that every State in the Confederacy will have, sooner or later, schools, experimental farms—*farmers' colleges*, perhaps, would be more significant—where the great questions pertaining to agriculture may or will be solved—where men that have delved deep into nature's laws, and of ripe experience, shall shed forth their light on this, the business of our lives.

The first great work of education, however, lies in our common schools; in them rests the future hopes and prospects of our State; for them place your standard high—the age demands it.

There is a point, however, in the taxation for our public schools beyond which we should not go. We must avoid a burdensome taxation. No people can or will long endure a tax beyond their ability to pay. Carry it not so far that the public mind becomes aroused against it. Limit your taxation by constitutional law. Continue to build and to endow your schools and your colleges, as your wealth and means increase, until every individual of this new State shall have the advantages of a good and sufficient education.

Rome was not built in a day, neither can we consummate in one year, or in ten, a work of so great a magnitude.

But I must leave this part of the subject. We have just passed

one of those seasons which will add another page to the farmer's experience. Excessive moisture and heat have been its peculiar characteristics. These in their turn have developed myriads of insect life—and to such an extent that the farmer's prospects, if not entirely, have been measurably destroyed, our corn only excepted.

Another great drawback to the farmer's prospects has been the fluctuation in the price of his products. Steady prices, be they high or low, are far better for the great mass of our people, than this uncertainty, which must either on the one hand bankrupt the producer, or, on the other hand, deprive the laborer of his just reward.

Another subject claims our attention. In looking over these grounds, it is encouraging to see so much fine stock exhibited in a county so new as that of Stephenson.

No surer basis exists than a well selected herd of fine cattle, the soil only excepted. I need not say, however, to the farmers of this county, that in common with others, they have much to learn with regard to the stock best adapted to the soil and climate of northern Illinois.

In cattle, the Durham has many good points, so with the Devon; but does not every careful observer see in every class some fault, as well as a corresponding advantage?

In a climate where there exists so wide a range, it is evident that our cattle, sheep, and our horses, to thrive, must be of the most hardy races.

There is no one that more fully appreciates the great improvements that should be made in our stock than myself; but they must be adapted to the locality, or they will, sooner or later, degenerate. This crossing and adaptation of stock should be prosecuted with all our ability, and yet it will be found the work of more than one generation.

To expect that the pure blooded Durham would remain the same, unchanged, would be as reasonable as to suppose that a people, foreign, could or would remain on these prairies, for many generations the same.

All are alike governed by that same great law of assimilation and adaptation. Man himself becomes modified, if not morally, physically, in a new climate and soil. Your domestic animals will and must partake of the same change. Your plants and your trees, not indigenous, follow the same great law. It may be the work of a few years, or it may require many generations.

The increase of stock, especially of cattle, should be encouraged, not only by individuals but by every agricultural society in the State. Their number should increase until this rank luxuriance, which every where surrounds us, is entirely consumed.

Its consumption, by stock, would add thousands to the wealth of this State; and not only this, the malaria or swamp miasma, which must arise from its decomposition, cannot but lay the foun-

dation of many of our most fatal diseases. The valley of the Nile, were the rank luxuriance of the soil suffered to grow, would soon become the home of the plague, and other diseases of the most malignant character.

The climate of northern Illinois, were all our lands brought under a proper state of cultivation, would soon become celebrated for its salubrity, and those autumnal diseases, which at times prevail, would almost cease to exist.

The Indians burned over, annually, these prairies, but true civilization must convert these wild grasses and native products of our soil, until the same becomes cultivated, to some useful purpose.

To burn over these prairies annually, you must destroy the germ of those forests which are rising so rapidly everywhere around us, and which are not only so much needed to beautify, but also to supply some of our future wants.

Indian Corn.—In the cultivation of these lands, now wild, no product offers so great inducements as that of maize or Indian corn; none has so wide a range; and among the native plants of this continent, none can compare with it in value.

Of its origin we know but little, but it is probably a remnant of the civilization of a people whose history and name are lost. To the nations of this country it was their only bread, and as far as our knowledge enables us to judge, it contains all the elements of nutrition, capable of supplying our physical wants. It bears with impunity the heat of the tropics, and almost any degree of moisture, actual inundation excepted. It will flourish almost anywhere if but ninety days of summer sun can shine upon it.

Other plants may degenerate, as the potatoe, or die out—this plant has probably remained with but little change for many centuries. What effect the cultivation of civilized nations will have upon it, the future alone can determine. My opinion, however, is that it will remain as permanent as the rice plant of India, or the wheat plant of central and northern Asia.

It is to such a plant that we must look for the raising of our stock, and at least in part, for our bread. A grain that can so easily and abundantly be raised should be stored and put in reserve for seasons of want. It is true that we have had but one partial failure of this crop during the past half century, and that in 1854, which, however, scarcely affected us in this latitude. Its worth is scarcely yet known, and the many uses to which it will be applied, aside from that of bread, must greatly enhance its value. The quantity that could be raised in this State alone would almost appear fabulous. Yet, at no very distant day, every acre, not required for other uses, will be put in requisition for its cultivation. My observations lead me to believe that in the cultivation of the Indian corn, were but the stalk thrown back, or rather plowed beneath the surface, it might be continued on the same land for many generations unimpared in its fertility.

There is no land, however rich, but that requires seasons of rest. This might at times be done by "seeding down." Another great injury to our soil, especially for corn raising, is suffering stock to run over it during the seasons of winter and spring, by which its friability is lessened and the productions of the soil greatly impaired.

Another grain, no less worthy of attention, is wheat. Important as is this plant among the cereals, it must give place to Indian corn. Cultivators will in future engage with it with more caution. So far, as a leading crop, it has paid less than any other staple production. It is to be hoped, however, that a riper experience in its cultivation will make it (as a crop) more remunerative. It would undoubtedly add much to its value could some varieties from the far north be introduced that would ripen before the extreme heat of our summers.

Horticulture.—Engaged as I have been for many years in horticulture, you will expect something from me on that subject. Would that I could present you with a more flattering aspect of this, the idol of my labor. Uninterrupted prosperity, however, is not always good for man. A few years since, and the prediction was made, that for fruit this would soon become the garden of the world. But the changes in our seasons have rendered more temperate our expectations, and we are led by the light of the past to prepare for the future. For we have planted trees unsuited to this soil and climate. We have cultivated them without regard to the great changes of the seasons. Step by step will we learn in this, as in every new and untried enterprise. Young America like, we hastened in our trees a premature development—a premature development, as well in plants as in animals, must hasten a premature decay.

Of the apple, I would say, that of all our fruits, it is the one most to be desired, for it meets our every day wants. Its origin and early cultivation has been lost in the past. Like man's best friend, it has followed him in all his wanderings, wherever locality would admit of its propagation. Being foreign to our soil, it partakes, to a greater or less degree, of the diseases which have grown upon it by being propagated in an unhealthy manner or locality, or in contact with other plants or trees, capable of transmitting from one to the other their peculiar diseases. New York has her Newton Pippins, New England her Baldwins, but Illinois will yet raise apples no less celebrated, adapted to her climate.

The cultivation of the pear, like that of the apple, is of an early date. It probably had its origin in Northern Asia. In delicacy of flavor, with its rich and saccharine juices, it has no superior. And well might the ancients say it possessed a nectar worthy of the gods. It would flourish, were it not for the blight, almost as one of our indigenous trees. It is yet hoped that this enemy of the pear will run its race, and that it will become, as formerly, almost as abundant as the apple. An unhealthy manner of propagation has done

much undoubtedly towards its premature decay, but as the laws, or rather the nature of the disease which infests our plants and trees becomes better understood, a greater degree of success will attend its culture. It is to the native cultivated pear for the future to which we must look for our hardy trees. Among the many pear trees which I have planted—principally standards—but few give promise of long life. This may, in fact, be owning to the too rapid growth of the tree. The dwarfs have fruited well for a few years, but from so imperfect a union as exists between the stock and the graft, their time of usefulness must be short.

Among the autumnal fruits, the peach stands deservedly high, and has, wherever it can be cultivated, high claims on our attention. Its more southern parentage than the apple and pear is everywhere manifest, and if it ever becomes acclimated to our climate it will, I fear, be after many years of careful cultivation. I have attempted to render it more hardy by working it on the wild plum stock, but all the efforts made so far, either by others or myself, to change its character have failed. Those, however, who would wish any degress of success to raise a few for the dessert or the table, can do so by training the tree low and covering the branches with soil during our winters. I have tried it a number of years and have failed in but one, and that from late frosts.

The plum, although of less value than the apple or pear, deserves a place in every orchard. As a dessert-table fruit it meets a want not easily supplied. The fruit for some years, owing to our severe winters and the ravages of the curculio, has scarcely been found in our market. Should the varieties now in cultivation continue to fail, our wild plum must receive more attention. Being native to this soil the tree is hardy, and offers greater inducements for improvement than any other native fruit bearing tree found in our State. A sure and an abundant bearer, with little danger from the diseases that are destroying the old cultivated varieties, there is hope that when it shall receive proper attention that it may fill a place in the temperate latitudes, now occupied by those which we fear are fast passing away. Science and skill have already done much to overcome these diseases, but the work has only commenced.

Notwithstanding all these adverse circumstances attending the business of horticulture, we have no fears for the future, and trust at no distant day to see every family enjoying this first great blessing. To the young men, I would say plant fruit bearing trees, and if on the prairie neglect not the forest trees; to the middle aged, I would say plant trees; and to the aged I would say, plant trees; esteem it among your most sacred and binding duties. It may not bring with it high distinction, for it is an humble act, but will carry with it that pure satisfaction which position cannot always bring.

Friends of horticulture, we enjoy to-day the fruits perfected by a civilization older than history. The men who perfected or modified these fruits so that they assumed the character of cultivated

trees, no doubt possessed with ourselves, the same high hopes and aspirations. If these great gifts were consummated by men destitute of the present lights of science, what benefits should this age confer that shall be as lasting to the world? A Van Mons could spend a life devoted to the cause; a Downing commenced, but a heart so generous must find a premature grave.

I cannot pass over the various topics of interest, without saying one word in commendation of the honey-bee. For many years have I raised it, yet my attachment to it becomes none the less. An intruder on no man's domain, neat and cleanly in his habits, an example of order and industry to those possessing a higher intelligence, it forms a rural establishment worthy of a place around every home. The honey adds a happy variety to the substantials of our table, and may truly be classed among the delicacies and luxuries of our board. The purest sweet of nature, it comes to us unalloyed. May every lover of nature's works neglect not this most valuable gift to man of the insect world. On our large prairies it only partially succeeds, but wherever timber abounds their rearing will repay a hundred fold.

But among the topics which should interest our people, none are more vital than the comfort and happiness which should cluster around our homes. Farmer's leave not these homes of your early toil. Suffer not the *ignus fatuus* dream of wealth to lure you from their protection. Who would exchange the blessings of his home, and the security, order and protection of a law abiding people for the promised wealth of distant and untried lands? Mexico, for example, has unbounded stores of wealth, with mines of silver and gold, a fertile soil and a genial climate, yet the condition of her people is such that it should enlist the sympathies of the surrounding civilized nations. The cultivators of her soil own it not; the institutions of her church are superior to her laws; indebtedness is there a sure and inevitable condition of bondage. Sooner would I live and gain my daily bread on the most uninviting spot in my country, than with such a people.

I would say to young men about to start in the world, secure first the soil for a home. Be those acres few or many, it will be something that you can call your own. Make it a home. For what is man without a home? The adversities of life may assail, sickness may prostrate, but if at home, how dear the spot! Young man, you must not, however, expect after making you can maintain these homes without labor. What I mean by labor is industry and application to some useful business or pursuit. Man needs it not only for his physical but for his moral and intellectual development. The mind that is void of useful and noble thoughts, must be occupied by low and base conceptions. Those of you who wish to command the respect of all good men, and build up for yourselves a character for self reliance, shun no labor, but couple it with intelligence and success will attend your efforts. Of all the men with whom you meet, shun those who look down on

honest toil. It is true that such men are fast sinking to their proper level. As an excrescence on society, they begin to feel their isolation among an industrious and self supporting people.

Farmers, make your homes the abode of comfort and refinement. There is no surer index to a man's character, than the surroundings of his home. A noble and a generous mind will stamp itself on every surrounding object. Order and refinement are so nearly allied to virtue, that the one appears almost inseparable from that of the other. It matters not how small the beginning or how humble the home, if but neatness and order reign. Farmers, make your homes such, not only for your own sake, but for the young and rising generation, that they may be induced to follow your example. By so doing you will establish firmer and firmer the basis of your country's prosperity, and perpetuate those laws and institutions which now are the day star of hope to the surrounding nations.

TAZEWELL COUNTY.

Officers for 1858:

President—Josiah Sawyer.
Vice President—Lloyd Shaw.
Secretary—Seth Talbott.
Treasurer—J. Haywood.

The annual fair of Tazewell county was held on the 6th and 7th days of October, at Tremont. The weather was not favorable, but the attendance was large. The entries exceeded in number those of last year. Mr. Merwin's address was highly commended. The collection of agricultural implements was not large. There were two sugar mills entered—whether of metal or wood is not stated. Some specimens of sugar and molasses, made from the Chinese Sugar Cane, were exhibited. The sugar was made by Josiah Sawyer. One parcel was fine. He exhibited two specimens of sugar and also two of molasses. The manner of making it is thus stated:

"The samples of Chinese Sugar Cane Syrup and Sugar, herewith presented, were made as follows:

"Sample No. 1, of Syrup. Immediately after the juice was expressed, it was clarified with milk and eggs and boiled down to syrup, without further preparation.

"Sample No. 2. Pursued the same course, with the addition of two table spoonsful of lime water to every two and a half gallons of juice.

"Sample of Sugar, No. 1. Pursued the same course as with No. 2 Syrup, with the addition of two ounces of ivory black to the

gallon of syrup, and it commenced to granulate soon after it became cool.

"Sample No. 2. Treated as No. 1, with the addition of a small solution of nut galls. It began to granulate in about three days, and about half sugar and the other syrup.

"J. SAWYER."

The vegetables were unusually fine. A good show of apples. There were good specimens of domestic wine, preserves, pickles, pastry, bread, etc. A very good floral display. Needlework and household fabrics, did credit to the fair. There was an unusual exhibition of good horses, cattle and hogs. No sheep shown. The gallinaceous tribes well represented. $350 were paid in premiums. It was a very satisfactory fair.

SETH TALBOTT, *Secretary.*

VERMILION COUNTY.

Officers for 1858:

President—John Gerard.
Vice President—Thomas McKibben.
Secretary—Jacob H. Oakwood
Treasurer—John A. Church.

FIRST DAY, OCTOBER 13, 1858.

The fair commenced October 13—to continue four days. The fair was held at Catlin. The grounds had been improved since last year. The entries to-day consisted principally of stock. The bad weather kept many persons from the fair—and many of the awarding committee men on stock were not present.

SECOND DAY, 14TH.

The sun rose clear this morning, and every sign betokened a pleasant day. By noon the grounds were covered with a crowd. The halls were very rapidly filled up with articles on entry. There were many additions to the stock department. Enormous vegetables intersperse the Floral Hall, with specimens of needlework, fancy work, penmanship and various other articles. The entries, up to the close of this evening, are: horses, 175; cattle, 80; hogs, 26; sheep, 21; miscellaneous, 166; and articles for which no premiums were offered, 28.

THIRD DAY, 15TH.

The third day is the great day of the fair. The grounds are well filled. The scene is animated, and the greater portion of the people present seem to be well pleased. The attendance is considerably better than last year.

The exhibition in the departments of manufactures of all kinds, farm products, fancy work and poultry, is better than in the two preceding days. The trotting match now comes off. The horses of J. J. Alexander carry off the blue ribbons, for trotting and pacing. Alexander's horse made the time in 2:44. The awards are all made and to-morrow they will be paid out.

FOURTH DAY, 16TH.

To-day is devoted to paying premiums and selling and exchanging stock. There were two or three auctioneers engaged in selling, and it is the noisest day of the fair. Considerable property changed hands. The premiums awarded were paid out.

The fair was better attended this year than ever before. The receipts at the gate were $1,000 50, against about $900 last year. This, with $100 received from the State, makes the income of the Society $1,100 50. The expenses were, for premiums, $600; other expenses and improvements on the grounds, $400; leaving about $100 in the treasury.

J. H. OAKWOOD, *Secretary.*

WHITE COUNTY.

Officers for 1858:

President—Thomas Keaney.
Vice President—R. Emmerson.
Rec. Secretary—R. S. Graham.
Cor. Secretary—George Darrah.

The first fair of the White County Agricultural Society was held on Tuesday and Wednesday, the 12th and 13th of October, 1858. The weather of the first day was unfavorable, being cloudy and cold for the season, and little else was done than entering and arranging articles for exhibition. At 11 o'clock, the Rev. J. J. Ferree delivered an address which was appropriate, eloquent and impressive.

The second, and last day, the weather was delightful, and with the bright morning sun came hundreds of cheerful visitors, some from neighboring counties, but chiefly made up of citizens of our own county. A fine band of music was in constant attendance, which added much interest and pleasure to the occasion. The show of cattle and swine was not as numerous as we had good reason to anticipate. The show of horses was large and of fine quality. Almost every department of agricultural and farm products was well represented, together with many articles of mechan-

ical skill and ingenuity. The contributions of the ladies, which were numerous and elegant, added greatly to the interest of the fair.

The Society have bargained for ten acres of land, three quarters of a mile from town, and have had a fraction less than five acres inclosed with a close plank fence, and have had a well dug and temporary buildings erected for the present emergency. It is intended, next year, to erect offices, committee rooms, sheds, etc., of a more durable and permanent character and on a more liberal scale. The location is beautiful beyond description, being as level as a floor and covered with a growth of young oak timber, which is indispensable as a shade as well as ornamental.

We have every reason to believe the fair came up to the most sanguine expectations of its friends, and gave satisfaction to all concerned. The masses of the people have become interested and seem willing and anxious to take hold and carry the matter forward, so that we now look upon an annual agricultural fair as being a permanent and perpetual thing.

Our premium list was necessarily small this year, but next year we expect to be able to offer inducements to competitors worth striving for. The fair closed at about 5 o'clock, P. M. Our officers are: Reuben Emmerson, President; Chas. B. Bailey, Ezekiel Hunsinger, Jas. S. Coulter, Vice Presidents; Dr. George Darrah, Corresponding Secretary; F. E. Hay, Recording Secretary, and Cal. T. Ross, Treasurer.

As there will be a meeting of the Society, on the first Monday in December next, to consider the financial condition of the Society and other important matters of interest, it is thought proper to give the following in this report.

The total expenses of the Society, from its organization to the present date, are as follows:

Thomas Randolph, for work on fair ground	$327 94
Patrick & Handley, for lumber "	265 00
Patrick, for nails, merchandise, etc	17 00
Young & Hadden, for boards on fair ground	38 85
N. T. Shipley, ten acres ground	160 00
Printing, seal, store bills paid, etc	59 50
Carmi Band	35 00
Other store bills unpaid, estimated	36 71
	$940 00

TOTAL RECEIPTS.

Received from State	$200 00	
" membership	150 00	
" receipts of fair	250 00	
		$600 00
Present debt of Society		$340 00

All of which is respectfully submitted.

GEORGE DARRAH,
Cor. Sec. White County Ag. Society.

WHITESIDE COUNTY.

Officers for 1858:

President—R. L. Wilson.
Vice-Presidents—Dr. Hubbard, Dr. Pennington, A. R. Hamilton.
Secretary—J. E. Bennett.
Treasurer—Allen Groves.

The fair was held at Morrison, on the 13th and 14th. There were upwards of 700 entries. Cattle, 25 entries; sweepstakes, 20; carriage horses, 65; horses of all work, 75; saddle horses, 15; lady equestrianism, 6; jacks and mules, 6; sheep, 10; swine, 10; butter and cheese, 15; leather work, 10; farming utensils, 15; iron work, 10; domestic manufactures, 60; ornamental needle work, 50; fruit, 35; flowers, 8; garden vegetables, 60; poultry, 10; hedges and farms, 6; miscellaneous articles, 127. A very fine display. The attendance was large, and every thing went off to the general satisfaction.

WINNEBAGO COUNTY.

This Society was organized under the act of the Legislature of Feb. 15, 1855, and has kept up the spirit of the said act to the present time.

At the annual election of the Society, held February 6th, 1858, the following were elected the officers for the ensuing year, viz: President, Hampton P. Sloan; Vice President, Abraham I. Enoch; Secretary, Newton Crawford; Treasurer, Hiram R. Enoch; Directors, Richard Jackson, Samuel Cunningham, John Andrew, Joel S. Sherman, C. M. Franklin.

The Society held its annual fair for 1858, at Rockford, on the 21st, 22d, 23d and 24th days of September, on ground purchased by the Society for the permanent location of its fairs. The grounds embrace twelve and five-eighths acres, within the limits of the city of Rockford, and are acknowledged to be the finest and most beautiful for purposes of agricultural fairs of any in the State, having the advantage of a living stream of water running through one corner. On one side of the ground is a level plat of sufficient size for a circular trotting course, of a quarter of a mile in circumference. Surrounding this, for more than half its circumference, the ground rises rather abruptly some thirty feet above the level of the trotting ring, forming a natural amphitheatre on a grand scale and giving to visitors, at any stand point on the high ground, a distinct view of all that may be doing on the grounds. Upon the level ground, and outside the ring, are situated the stalls for cattle,

and'horses, which are made in a substantial manner, furnished with permanent mangers and feed boxes; pens for herds of cattle, hogs and sheep, and ground for the exhibition of farm implements and machinery. Upon the elevated ground overlooking the whole are situated the show buildings for the domestic department, one hundred and fifty feet long by fifty feet wide, to which is attached the business office of the Society during the fairs, committee rooms, &c., and near by is the dining hall, one hundred feet long by twenty-seven feet wide, capable of seating three hundred persons—attached is a kitchen for cooking the food to supply the tables.

These grounds were purchased by the Society in August, 1857, for the sum of $7,506, and for the payment of which they depend mainly upon the receipts of the annual fairs, although quite a sum has been raised upon subscription of stock.

The last fair was a very successful one, there being received at the gates for admissions and entries some $3,600. The number of entries in stock, farm implements, products and manufactures reached 787. There were 120 entries of stock, embracing many very fine specimens of cattle, either of Short-horns, Devons or Herefords. There were several herds of cattle on exhibition which very justly attracted much attention, not only for its being a new feature in the fairs but for their excellent qualities. In horses the show was very superior, excelling any previous show. The entries number 192, embracing all the various breeds, from a thoroughbred to a mustang pony. The Morgans being the most numerous and the general favorites were most successful in obtaining prizes. The show in hogs was not numerous, but decidedly an improvement in breeds over former fairs. The Suffolks bore off the prizes. There were 25 entries in sheep, and finer or better specimens, either in long or short wools, could hardly be shown in any county. In the class for working oxen there were 24 yoke entered, which were of a very superior quality, both as to their being well trained to work, size or compactness of body, &c. In fat cattle the entries were few and confined to grass fed animals, which were good specimens of the kind. Of poultry the show was large, embracing all the different varieties of the improved breeds, from the stately shanghai to the proud little bantam. Ducks and pigeons were well represented, there being samples of almost every kind on exhibition. In the farm implement department there was a large number of entries, including seven different kinds of reapers, three mowers, three reapers and mowers combined, three reapers and self rakers, different kinds of broad-cast sowers, seed-drills, planters—both horse and hand, plows of various kinds, threshing machines and separators, horse powers, sugar mills, fanning mills; all largely manufactured in the county. In grain and vegetables the show was quite large, the entries reaching 100, embracing the different kinds of farm products and vegetables. Several superior samples of winter and spring wheat for this season's product. Some fourteen different kinds of corn—all good—the Yellow Dent taking the

premium. Fair samples of oats for the season, fine potatoes, and the different kinds of grass seed. Sweet potatoes were shown in great abundance, having been grown in great perfection this year. Cabbage was shown in great quantities, but cauliflowers were scarce, only six heads on exhibition. The corn starch on exhibition, made by Messrs. Bagley, Gregory & Co., of Rockford, was second to none, wherever made, attracting attention and complimentary remarks from visitors. In butter the show was exceedingly rich, was in 50 and 25 pound packages, made in May and June, and fine specimens of that which was fresh made, all or any doing credit to the maker. A few goods pecimens of cheese, but the entries in this department were very few.

The annual fair was too early for a full exhibition of sugar and syrup, made from the sorghum—only two or three entries of syrup and one of sugar, which were very creditable samples, and the managers of the Society decided upon holding a meeting of the growers of the sugar cane and others interested in growing and manufacturing; which meeting took place on Wednesday, December 8th, at the court house. Much interest was manifested on the occasion, and a good number of samples of syrup on exhibition, notwithstanding the very cold and inclement weather during that day. The discussions and conversations at this meeting were interesting, and the following conclusions were agreed upon: That the seed should be planted early; that dry, sandy soil is probably the best to grow the cane upon, as the yield of juice is more from the same weight of stalks, and will yield more syrup from the same quantity of juice; that it should be cultivated the same as Indian corn; that it should be harvested when the seed is in the dough, the juice expressed as soon as possible thereafter, and the boiling commenced and kept up so as to have the juice immediately go into pans for evaporation; that copper pans are much preferable to any other metal for evaporating; that it is not necessary to use alkali to cleanse the syrup; that it only requires constant attention and skimming whilst boiling, and thorough straining through fine flannel cloth, and keeping the bottom of the pan, after the scum has arisen, perfectly clean, to produce a superior syrup; that the juice should be reduced from six to eight gallons to one of syrup, to be good; that it will make good sugar is beyond a doubt; that a fair yield of juice per acre is 1,600 gallons, although 2,000 gallons have been produced; that the suckers and blades with the seeds profitably managed will pay the expense of cultivation; that the quantity of seed produced per acre is (average) 40 bushels; that a good stalk should weigh two pounds, and the product of an acre of stalks would be about 15 tons; that syrup at 25 cents per gallon will yield as much profit to the farmer as corn at 40 cents per bushel, and that the raising of the sugar cane for the purposes of making syrup and sugar will form one of the staple productions of the farmers of this county.

After the discussion closed the Board of Directors of the Society

made the following awards upon the samples of syrup produced, viz: The first best sample to Sylvester Scott; second best, Joseph Milnor; third best, D. F. Talbott, Superintendent of County Poor Farm. The President of the Society then produced samples of pies and cakes, made with the syrup from the cane, by his good lady; upon testing which the company agreed that the quality could not be improved by using Louisiana syrup in the cookery.

Of the products of the orchard very little was exhibited, owing to the general failure of the orchards in this county; yet there were some very creditable samples, particularly those varieties of table apples shown by the Rev. Wm. Gates.

The show of Grapes was very good. Samples shown by Dr. C. N. Andrews show that great improvement can be made in the native grape.

The Domestic Department of Manufactures, as is always the case, was very interesting, the entries reaching as high as 115, and embracing all the different kinds of manufacture, from an excellent quality of woolen yarn to the finest kind of fancy embroidery that the ingenuity of the ladies could design or execute. The contributions, by the way, of millinery goods were very interesting, there being several cases of the finest and most valuable samples, doing credit to the contributors.

In the Fine Arts Department the exhibition was most excellent. Number of entries, 56.

The Oil Paintings would have been creditable to a larger and older county, even where this profession is better patronized than here. In crayon and pencil drawing the exhibition was excellent; and in writing the specimens could hardly be excelled at any fair.

There were designs and models for Steam Boilers, Self-Rakers for Reapers, &c., on exhibition.

Some very fine specimens of workmanship in Harness and Saddlery.

Flowers and House Plants to beautify the whole pavillion.

The show in Canary Birds was very good, having some very fine specimens of imported birds.

In specimens of Stuffed Birds, perhaps there is no county that can show a better collection of native birds than this in the west. Mr. Wm. Blackburn had on exhibition thirty-seven cases, all prepared by himself, and nearly all natives of this county, which always attracts much attention from visitors.

A very interesting and unusual display was got up at our fair by Lewis W. Owen, Esq., of the town of Owen, who brought upon the grounds, mounted on wagons, his entire stock of farm utensils and tools. One of these wagons was drawn by ten yoke of oxen. Other wagons were drawn by horses. This exhibition was got up in order to show what was necessary for an ordinary farmer to have, in the way of tools, to carry on an ordinary farm.

At the time we held our fair was also had a military encampment, within the grounds, which may have been interesting to

some, but, after all, is considered as a doubtful kind of policy for a county agricultural society to follow or adopt.

The annual address was delivered, on Thursday, by R. S. Blackwell, Esq., of Chicago.

The amount of premiums offered at this fair exceeded $600.

The past season was rather unfavorable, for most farm crops in this section of the state, the wheat crop being almost a failure, the average yield being not far from eight bushels to the acre, and this of an inferior quality. The corn crop was also below an average, by reason of the fore part of the season being very wet and cold and the seed planted not all coming up. The crop ripened very well and the quality of the corn was good. The oat crop was almost an entire failure, by reason of the rust. Some few fields being sown early, the crop ripened before struck by the rust. The average yield in this county is not more than ten to fifteen bushels to the acre. Potatoes were an average crop this year, this county shipping many thousand bushels to other parts, particularly to the lower parts of Indiana. The rot was severe in some localities. Grass was unusually good; more than an average product, which will all come to good account, by reason that there is but little oat or wheat straw fit for feeding. Hungarian Grass is being cultivated by some farmers to considerable extent, they giving it as their opinion that it is cheaper and better than Timothy or Clover for feeding, as a winter feed, either for cattle or horses.

The Pork crop was rather light in this county this year, yet the quality was good. Beef very good and abundant—in fact, it being almost the only thing the farmers could dispose of to any advantage for cash.

We have no means of knowing the amount of products, for the past season, in this county.

NEWTON CRAWFORD, *Secretary.*

WILL COUNTY.

The Will County Agricultural Society, since their last report to the State Agricultural Society, has increased in usefulness and is much more prosperous than then. The list of premiums for the seventh annual fair, in September, 1857, at their fair grounds, in the city of Joliet, was much larger than ever offered before. By the munificence of the Honorable Ex-Governor Joel A. Matteson, who donated to our Society, in April, 1857, five hundred dollars, which allowed our Society to increase their premiums and to add new premiums on articles which the Society had not felt able to offer before, the amount offered as premiums, for the year 1857, was about fourteen hundred dollars, which was paid in silver ware; and, by the generous donations of our county and city, which donated two hundred and fifty dollars each, the Society was able to fit up

their grounds in good style. There was a large attendance at this fair, and the competition for premiums was very spirited. The show of Horses, Cattle, Sheep, Hogs, farm crops, &c., &c., was excellent, and was as fine as could be found in the state, and was very creditable to Will county. The people seemed very enthusiastic and aroused to the necessity of supporting their County Agricultural Society. The two first days were fair weather, but the third day was wet and rainy; but it did not dampen the ardor of the people. There was as large an attendance as on either of the previous days. At 11 o'clock an address was delivered by the President, John Young, Esq. After the address the Society elected their officers for the ensuing year; which were as follows: President, John Young; Vice-President, Robert Stevens; Secretary, R. E. Barber; Treasurer, Benj. Richardson; an Executive Committee of three from each town in the county. R. E. Barber and Benj. Richardson having refused to act, Wm. Turner was elected by the Executive Committee as Secretary and O. L. Hawley as Treasurer.

The eighth annual fair was held on the 28th, 29th and 30th days of September, A. D. 1858, at their fair grounds, about one mile east of the city of Joliet.

The concourse of visitors was by far the largest that ever came together on any occasion of the kind since the organization of the Society. The display in every department, with a few exceptions, was superior, and much larger than any of our former fairs; but still it was not what our county should do, and not what we are in hopes of doing, in a few years, when the ample material of our county as she is capable of for making a splendid exhibition when it is brought forth.

The entries at this fair were as follows: Horses, 106; Cattle, 68; Sheep, 44; Ladies' Domestic Work, 101; Ladies' Fancy Work, 50; and various other entries, 231; making the total entries 610.

There were many animals and articles exhibited on the grounds which were not registered; and, consequently, did not compete for premiums.

It is worthy of remark that three years ago all of the cattle of the finest breeds were registered by a few farmers, while now they are owned by nearly every farmer in the county. And the show of Horses was very fine in numbers, and, being of the best breeds, called forth the admiration of both visitors and residents. The Sheep exhibited were but samples of the many numerous fine flocks of which our county can boast. In the Ladies' Department the display of articles was excellent; and, from the number of articles entered, shows that we have the ladies at work with us for the prosperity of our Society.

The two first days were very fine weather, but the third was rainy, which made it very unpleasant. The amount of premiums offered was about the same as last year—fourteen hundred dollars

—which was paid in silver ware; and, by the generous donations from the city of Joliet and our county, who donated two hundred and fifty dollars each, our Society have about three hundred dollars on hand, after paying off the premiums. The annual address before the Society was delivered by the President, John Young, Esq.

The officers elected at the last fair, in September last, were as follows: President, Ira Austin; Vice-President, B. F. Allen; Treasurer, John Young; Secretary, W. B. Hawley.

WOODFORD COUNTY.

Officers for 1858:

President—Wm. H. Armstrong.
Vice-Presidents—Wm. Dodds, Allen Hart, J. Means, G. W. Robinson, J. R. Gaston, Garmon Gish.
Secretary—J. J. Marsh.
Treasurer—Allen Graves.

The following is a brief statement of the condition and prospects of the Woodford County Agricultural Society. This Society was permanently organized May 29, 1858, under the provisions of the statute of Illinois, with a capital stock of ten thousand dollars, divided into shares of one dollar each. Eleven hundred shares have been subscribed for, and the money paid into the Treasury. The Society has also received from the State the sum of one hundred dollars, and from entrance and gate fees, at its late fair, three hundred and thirty-five dollars.

The Society has rapidly increased in numbers and interest since its permanent organization. Its last annual fair was held at Metamora on the 13th, 14th and 15th days of October, 1858, upon the beautiful grounds of the Society, purchased for that purpose, consisting of ten acres, inclosed with a close board fence, seven feet high. The Society has already expended more than twelve hundred dollars in the purchase and improvement of the grounds for its annual exhibitions, with the design of increasing the improvements to the cost of about eighteen hundred dollars more; leaving the sum of seven thousand dollars of its capital stock unexpended, the interest of which will be appropriated in the manner best calculated to develop the resources of the country.

H. L. HASKELL, *Secretary.*

HAMILTON COUNTY.

Officers for 1858:

President—John A. Wilson.
Vice-Presidents—Z. B. Reed, J. M. Heard, Hosea Vise.
Secretary—S. E. Gates.
Treasurer—J. S. Kinner.
Corresponding Secretary—Ch. Carpenter.

The second annual fair of the Hamilton County Agricultura. Society came off on the 20th and 21st, on their fair grounds, at Nashville, and we are proud to know and happy to say that Hamilton county is fully alive to her true interests. The farmers and mechanics of this county have listened long enough to the fulsome harangues of stump orators, who would ascribe to them the sovereignty of the country, but carefully withhold from them the sceptre of control in the public councils. They have become tired of being nominally the bone and sinew of the country, and have roused up into a determination that their calling shall assume its legitimate position as one of the professions. The business of farming is now indelibly stamped with the seal of dignified intelligence, combined with industry. The producing classes were fully and well represented, and we were surprised at the actual superiority of the articles on exhibition.

The ladies were on the ground with a lot of embroidery, needlework, &c., helping to set off the more substantial productions of our farmers' wives and daughters. There were quilts rivalling the "coat of many colors" that we read about; and coverlets "checkered as life"—saying nothing about turnips, cabbages, carrots, beets, &c., for they were too large to describe.

The Cattle Show was very interesting; but the greatest emulation was displayed in Horses. In fact the whole fair went off in perfect order; while the soul-cheering notes of the Carmi Band relieved the monotonous sound of the lowing herd and drowned the murmur of the cheerful crowd.

After the show was over the crowd gathered around the band wagon and received a short congratulatory and encouraging speech from Hon. C. Crouch, President of the Society, with hearty cheers. Judge Marshall was then called for, and said some sensible things about the fair. He very truly remarked that "Old Hamilton" is taking the lead of our neighboring counties in this all important cause. In a very few years we shall see the good effect of this infant Society.

The large crowd of gentlemen and ladies then dispersed, with a fixed determination that the agricultural interests of the county shall be truly developed. Farmers, stand by this thing for it is peculiarly yours. We hope the ladies will do their share; for without them we'd have no fair.

OFFICERS OF COUNTY AGRICULTURAL SOCIETIES,

FOR 1857-'58,

FROM WHICH NO REGULAR REPORTS HAVE BEEN RECEIVED.

CLARK COUNTY.

President—Tim. R. Young.
Vice-President—Jas. Lockhard.
Treasurer—J. R. Greenwood.
Secretary—Ed. L. Hote.

COLES COUNTY.

President—John Coper.
Vice-President—Wm. Miller.
Secretary—Jas. D. Ellington.
Treasurer—Thos. G. Chambers.

CRAWFORD COUNTY.

President—Samuel Park.
Vice-Presidents—Findley Paul, Wm. Beers, W. S. Emmons.
Secretary—C. H. Fitch.
Treasurer—A. P. Woodworth.

CUMBERLAND COUNTY.

President—M. Ruffner.
Vice-Presidents—G. W. Pickering, C. C. Jones, D. B. Green.
Treasurer—Jas. M. Ward.
Recording Secretary—A. G. Caldwell.
Corresponding Secretary—Jas. Ladew.

DU PAGE COUNTY.

President—L. Ellsworth.
Vice-Presidents—Abraham Henshaw, L. Bartlett, J. C. Wheaton.
Secretary—H. C. Childs.
Treasurer—Amasa Moore.

EDWARDS COUNTY.

President—John Bussenden.
Vice-President—J. S. Kearington.
Secretary—Samuel Thompson.
Treasurer—Gaspard Frossett.

EFFINGHAM COUNTY.

President—J. L. Leith.
Vice-President—D. Rhineheart.
Secretary—John S. Kelly.
Treasurer—P. Funkhouser.

FRANKLIN COUNTY.

President—B. W. Martin.
Vice-President—Wm. S. Crawford.
Secretary—E. L. Webb.
Treasurer—John McFall.
Corresponding Secretary—Levi Browning.

IROQUOIS COUNTY.

President—Hiram Varnum.
Vice-Presidents—Thos. Magee, Jonas Strickler.
Secretary—E. K. Farmer.
Treasurer—Henry Troup.
Corresponding Secretary—W. E. Keedy.

JACKSON COUNTY.

President—A. M. Jenkins.
Vice-Presidents—Wm. Schwarts, Wm. Goodwin, Thos. M. Logan.
Recording Secretary—D. Worthen.
Corresponding Secretary—Lindorff Ozburn.
Treasurer—John A. McClure.

MARSHAL COUNTY.

President—Benj. S. Eldridge.
Vice-Presidents—R. Dikes, J. Wier, Jas. Hall, C. C. Hoagland, M. Maxwell, G. Bidwell.

MASON COUNTY.

President—A. D. Hoppin.
Vice-Presidents—Wm. Atwater, A. Biggs, S. Rule.
Corresponding Secretary—Selah Weaden.
Treasurer—Wm. Higbee.
Secretary—J. H. Haivhorst.

MASSAC COUNTY.

President—D. D. Clemens.
Treasurer—Joseph F. Mears.
Recording Secretary—Wm. H. Green.
Corresponding Secretary—J. S. Armstrong.

MERCER COUNTY.

President—Graham Lee.
Vice-President—Wm. J. Nevins.
Secretary—Jas. Edward Bay.
Treasurer—Amos Prouty.

PIATT COUNTY.

President—Chas. H. Harris.
Vice-Presidents—Ezra Marquess, John Gatewood, Peter B. Hall.
Secretary—L. J. Bond.
Treasurer—B. B. Winchester.

PERRY COUNTY.

President—J. J. Swanwick.
Vice-President—H. S. Osborn.
Secretary—E. B. Bushing.
Treasurer—John W. Ryan.

PUTNAM COUNTY—BUEL INSTITUTE.

President—Wm. A. Pennel.
Vice-President—Wm. Patten.
Secretary—L. G. Edgerly.
Treasurer—H. N. Schooler.

ST. CLAIR COUNTY.

President—Ridson A. Moore.
Treasurer and Corresponding Secretary—S. B. Chandler.
Recording Secretary and Register—Anthony Scott.
General Superintendent—John Murray.

SHELBY COUNTY.

Acting President—Chas. Hartly.
Secretary—Jasper L. Douthet.
Treasurer—Chas. E. Woodward.

STARK COUNTY.

President—James Jamison.
Corresponding Secretary—S. S. Kaysbier.
Secretary—O. Whittaker.
Treasurer—David Lowman.

WABASH COUNTY.

President—Geo. Glick.
Vice-President—David Adams.
Corresponding Secretary—A. C. Edgar.
Recording Secretary—T. J. Shannon.
Treasurer—Wm. Koser.

WARREN COUNTY.

President—Truman Eldridge.
Vice-President—John B. McGinnis.
Secretary—Elisha Nye.
Treasurer—Chas. L. Armsby.

WAYNE COUNTY.

President—Sylvester Rider.
Vice-Presidents—C. L. Organ, J. S. Buckley, Matthew Crews.
Secretary—John Wilson.
Treasurer—Chas. Wood.

WHITESIDE COUNTY.

President—R. L. Wilson.
Vice-Presidents—Dr. Hubbard, Dr. Purington, A. R. Hamilton.

WOODFORD COUNTY.

President—J. Hammond.
Vice-President—Chas. Rich.
Treasurer—John W. Page.
Secretary—H. L. S. Haskell.

ILLINOIS STOCK IMPORTING ASSOCIATION.

SPRINGFIELD, *January* 8, 1857.

At an adjourned meeting of citizens of Illinois, for the purpose of organizing a Stock Importing Association, Hon. H. C. Johns in the Chair, and Lewis Ellsworth, of Du Page, appointed Secretary, *pro tem.* The Committee appointed at a previous meeting for the purpose, reported the following rules and regulations for the Illinois Stock Importing Association; which, after being considered, were adopted:

RULES AND REGULATIONS OF THE ILLINOIS STOCK IMPORTING ASSOCIATION.

1st. This Association shall be called the "Illinois Stock Importing Association."

2d. The object of this Association shall be the selection, purchase and importation into this state, from Europe, of such domestic animals as may seem to be required by the interests of the stock growers of Illinois.

3d. The capital stock of this Association shall be twenty-five thousand dollars—a subscription of one hundred dollars to constitute one share—and each stockholder to be entitled to cast one vote, in all meetings of the stockholders, for each share he may hold.

4th. The officers of this Association shall be one President, one Secretary and one Treasurer, whose duties shall be those usually appertaining to their respective offices.

5th. The first election of officers shall be *pro tempore*, except that of Secretary, whose duty it shall be forthwith to open books for subscription to the capital stock of this Association, at his office, in the city of Springfield.

6th. Whenever the sum of ten thousand dollars shall be subscribed to the capital stock of this Association, it shall be the duty of the Secretary to give notice, by mail or otherwise, to the stockholders to convene at the city of Springfield, at some specified day, for the purpose of transacting such business as may be presented for their consideration; at which meeting the majority of those stockholders present shall elect permanent officers for this Association, and choose a committee of three, whose duty it shall be, under the instructions of this Association, to select, purchase and import such animals as the Association may direct: *Provided*, That no person shall be entitled to vote at this or any subsequent meeting who shall not have paid into the treasury at least five per cent. on the amount of his subscription.

7th. All stock imported by this company shall be sold at public auction, in the city of Springfield, as soon after the arrival of the same within the limits of this state, as due notice of such sale can be given, and upon such terms as a majority of the stockholders present in the meeting referred to in the sixth rule may determine; and the proceeds of such sale be divided among the stockholders in proportion to their respective subscriptions, after deducting the entire expenses of the importation.

8th. The stockholders present at the meeting, referred to in the sixth rule, shall designate the times at which those who have subscribed to the capital stock of this Asssociation shall be required to pay to the Treasurer the unpaid balances of their respective subscriptions. Any stockholders failing to pay the remaining balances upon his subscription, as may be directed by resolution of this Association, shall, if the Association shall so order, forfeit his stock to this Association upon such terms as the Association shall determine: *Provided*,

however, that there shall be no forfeiture of stock unless notice of at least twenty days shall be given, by publication in some of the newspapers in Springfield, of the time and place at which the unpaid stock shall be required to be paid.

On motion of Mr. Ellsworth, the following gentlemen were elected officers of the Association, by acclamation: James N. Brown, President; John Williams, Treasurer; and Geo. W. Chatterton, Secretary.

On motion of Mr. Ellsworth, the Association adjourned to meet in the Hall of Representatives on Saturday evening, January 10, 1857.

—

SPRINGFIELD, *January* 10, 1857.

At an adjourned meeting of the Illinois Importing Association, James N. Brown in the chair;

On motion of D. Brown, Esq., the following resolution was adopted:

Resolved, That each member of this Association be and is hereby appointed an agent to procure subscriptions for the stock of this company, and report to the Secretary.

On motion of C. W. Webster, Esq.,

Resolved, That this Association cordially invite all persons throughout the state friendly to the enterprise to co-operate with this Association, and the papers of the state be respectfully requested to publish its proceedings.

Resolved, That persons desiring to take stock in this Association can do so by sending their names to the Secretary for enrollment, and also five per cent. on the amount of the stock for which they subscribe.

On motion of Dwight Brown, Esq.,

Resolved, That this meeting adjourn to meet in this city, at Mr. Jacoby's office, on the first Tuesday in February, at one o'clock, P. M., at which time the agents shall be chosen to select and purchase stock for this Association.

—

SPRINGFIELD, *February* 1, 1857.

At a called meeting of the stockholders of the Illinois Importing Association, the following named gentlemen were appointed agents to visit Europe and purchase stock for said Association, to-wit: James N. Brown, H. C. Johns and Henry Jacoby.

Resolved, That the third article of the Rules and Regulations of this Association be so amended as to read: "The capital stock of the Illinois Importing Association shall not be less than twenty nor more than thirty thousand dollars."

Resolved, That the agents appointed to select and purchase stock for this Association shall receive no compensation for their services; but that their necessary and proper expenses shall be paid out of the funds of the Association.

Resolved, That the stockholders pay to the Treasurer the balance due on the amount of their subscription by the 20th of April next.

Resolved, That the Treasurer and Secretary be authorized to confer with the Sangamon County Agricultural and Mechanical Association, and endeavor to procure their fair grounds for the accommodation of the stock on its arrival from Europe.

Resolved, That upon the return of the agents to Illinois, the Association be called together, and that the agents report thereto the result of their agency.

The agents sailed from New York for England on the 19th of March, completed their purchases in the months of April and May and reached home early in June. Owing to adverse winds and calms, the stock was sixty days on the passage, and did not reach Illinois until about the 21st of July. Several of the cattle and one horse died on the passage, and all the surviving animals were received in bad condition.

At a meeting of the Association, the sale of the animals was ordered to take place upon the fair grounds, on the 27th of Aug. The sale was made on that day, upon the fair grounds of the Sangamon Agricultural and Mechanical Association, John C. Maxcy, of Springfield, auctioneer, there being a large number of stock growers present from every section of the state. The list of the stock sold, the names of the purchasers and the prices paid are hereunto appended:

COWS.

Animals.	*Purchaser.*	*County.*	*Price.*
Bella, 5 years old	J. Ogle	St. Clair	$750
Caroline, 4 years old	J. N. Hill	Cass	500
Stella, 4 years old	Mr. Bohnman	St. Clair	925
Lady Harriet, 3 years old	James Jacoby	Sangamon	1300
Cassandra, 3 years old	H. Ousley	Sangamon	675
Western Lady, 2 years old	J. N. Brown	Sangamon	1325
Empress Eugenie, 2 years old	J. Ogle	St. Clair	675
Pomegranate, 2 years old	T. Simpkins	Pike	975
Lilly, 2 years old	G. Barnett	Will	550
Constance, 3 years old	G. Barnett	Will	700
Empress, 2 years old	J. Jacoby	Sangamon	1725
Rachel 2d, 2 years old	J. N. Brown	Sangamon	3025
Minx, 1 year old	J. G. Loose	Sangamon	800
Adelaide, 1 year old	R. Morrison	Morgan	825
Emerald, 1 year old	J. C. Bone	Sangamon	2125
Perfection, 1 year old	E. B. Hitt	Scott	900
Coquette, 1 year old	G. Barnett	Will	550
Fama, 1 year old	Spears & Co	Menard	1050.
Coronation, 1 year old	J. A. Prickett	Madison	500
Violet, 1 year old	J. W. Judy	Menard	700

HORSES.

Young Barnton	J. C. Crowder & Co.	Sangamon	5050
Baylock	R. S. Wilkins	Bond	1600

BULLS.

Defender, 3 years old	J. H. Thomas	Champaign	2500
King Alfred, 2 years old	J. Jacoby	Sangamon	1300
Admiral, 2 years old	S. Dunlap	Morgan	2500
Master Lownds, 2 years old	J. H. Spears	Menard	725
Argus, 2 years old	B. Saunders	Jersey	2058
Doubloon, 1 year old	W. Iles	Sangamon	1075
Gold Finder, 1 year old	J. W. Judy	Menard	725

SHEEP—FULL-BRED COTSWOLD RAMS.

Gen. Lane, 1 year old	H. Jacoby	Sangamon	300
Emperor, 1 year old	C. W. Price	Sangamon	160
Hewer, Sherling buck	M. M. Yocum	Sangamon	85

SHERLING EWES—LONG WOOLED.

Animals.	*Purchaser.*	*County.*	*Price.*
No. 1	H. Jacoby	Sangamon	$60
No. 2	C. W. Price	Sangamon	50
No. 3	C. W. Price	Sangamon	125
No. 4	H. Jacoby	Sangamon	70
No. 5	C. W. Price	Sangamon	35
No. 6	M. S. Ballinger	Greene	30
No. 7	H. Jacoby	Sangamon	60
No. 8	C. W. Price	Sangamon	30
No. 9	C. W. Price	Sangamon	50

SOUTH DOWN RAMS.

Cambridge Duke, yearling	H. Jacoby	Sangamon	205
Prime, yearling	J. N. Brown	Sangamon	195
Sir William, yearling	Miles Holliday	Morgan	110
Buckland, of spring '37	J. R. Meggeson	Morgan	40

SOUTHDOWN EWES.

No. 1—yearling	G. W. Becraft	Morgan	75
No. 2—yearling	H. Jacoby	Sangamon	80
No. 3—yearling	G. W. Becraft	Morgan	115
No. 4—yearling	D. A. Brown	Sangamon	80
No. 5—yearling	H. Jacoby	Sangamon	55
No. 6—yearling	James Strawn	Morgan	50
No. 7—yearling	J. N. Brown	Sangamon	45
No. 8—yearling	D. A. Brown	Sangamon	60

HOGS—BERKSHIRE BOARS.

Edward, 1 year old	W. D. Sanger	Sangamon	200
Siddington, 6 months old	J. C. Crowder	Sangamon	40
Tipton, 6 months old	W. D. Sanger	Sangamon	35
Gipsey Boy, 18th, 7 months old	Jesse Cloyd	Champaign	200
Gipsey Boy, 19th, 7 months old	E. B. Hitt	Scott	150

IRISH, CUMBERLAND AND YORKSHIRE BOARS.

Boyle, 11 months old	F. Stevenson	Morgan	180
Napier, 9 months old (crippled)	James Hill	Cass	55
John, 8 months old	S. N. King	Sangamon	105
Pert, 8 months old	E. N. Tainter	Sangamon	125

BERKSHIRE SOWS.

No. 1—11 months old	J. C. Crowder	Sangamon	220
No. 2—10 months old	Jos. Stockdale	Sangamon	250
No. 3—1 year old	Conrad Bohnman	St. Clair	380
No. 4—11 months old	John H. Thomas	Champaign	195

IRISH, CUMBERLAND AND YORKSHIRE SOWS.

No. 1—11 months old	J. Stockdale	Sangamon	300
No. 2—11 months old	E. B. Hitt	Scott	200
No. 3—1 year old	T. G. Taylor	Logan	205
No. 4—1 year old	L. P. Sanger	Sangamon	215
No. 5—1 year old	James Hill	Cass	40
No. 6—8 months old	E. B. Hitt	Scott	110

The amount of the stock of the Association was $25,000. The aggregate of the sales was $43,300.

CONVENTION OF CHINESE SUGAR CANE GROWERS.

At a meeting of the Sugar Cane Growers, held at the Senate Chamber, in Springfield, Thursday, January 7, 1858, on motion, Judge J. D. Caton was called to the chair; Ex-Governor John Reynolds and Uriel Mills appointed Vice-Presidents, and Charles Kennicott, F. W. Reilly and J. W. Kitchell, Secretaries.

On motion, carried that two committees of five each be appointed for the agricultural and mechanical departments.

The following named gentlemen were appointed as said committees:

Agricultural.—I. A. Hedges, of Cincinnati, Ohio, Chairman; Joseph Morton, of Jacksonville; Isaac C. Pugh, of Decatur; Mr. Allen, of Mt. Pulaski; H. D. Emery, of Chicago.

Mechanical.—Ambrose Henderson, of Jacksonville; B. R. Hawley, of Christain county; J. L. Gage, of St. Louis; M. L. Shaw, of Tazewell county; H. D. Emery, of Chicago.

On motion of Charles Kennicott,

Resolved, That the members of the convention send to the secretaries their names and post office address.

The following names were reported:

Judge Caton, Ottawa; S. Francis, Springfield; James L. Gage, St. Louis, Mo.; Lloyd Shaw, Tremont, Tazewell county; Dr. John Todd, Springfield; Dr. B. Gillett, Jacksonville; Dr. G. W. Evans, Springfield; Alex. Knox, Springfield; M. M. McIntyre, Springfield; Chas. Sawyer, Springfield; James C. Medill, Chicago; O. C. Skinner, Adams county; H. I. Chase, Jubilee, Peoria county; Austin Rockwell, Jacksonville; D. T. Nicholson, Pulaski, Logan county; Samuel B. Chandler, Belleville, St. Clair county; Lucius C. Francis, Springfield; A. Hammond, Jacksonville; Daniel Wadsworth, Auburn, Sangamon county; Isaac A. Hedges, Cincinnati, Ohio; Wm. P. Allen, Mt. Pulaski, Logan county; C. C. Woods, Peoria; E. H. Clapp, Rome Farms, Peoria county; J. B. Duncan, Jacksonville; H. D. Emery and Charles Kennicott, (Journal of Agriculture) Chicago; Ambrose Henderson, Jacksonville; Isaac C. Pugh, Decatur; C. C. Kelly, McHenry county; J. B. Gookins, Terre Haute, Indiana; T. H. Campbell, Springfield; Dr. H. C. Johns, Decatur; Hon. J. N. Brown, Berlin, Sangamon county; Frank W. Reilly, Chicago; J. W. Kitchell, Hillsboro; Mrs. S. Francis, Mrs. J. A. Matteson, and several other prominent ladies; Judge McClun, of McLean, and some thirty other gentlemen, whose names were not ascertained.

On motion, carried that a committee be appointed to report a regular form of organization.

Messrs. J. C. Medill, S. Francis and A. Rockwell were appointed said committee.

S. Francis read letters from Mr. Smith, of Louisville, and Mr. Lovering, of Philadelphia, upon the method of the manufacture of syrup and sugar cane; which were referred, with the specimens accompanying them, to the Committee of Agriculture.

The following are the letters:

LOUISVILLE, Ky., *December* 17, 1857.

MR. BELCHER—*Dear Sir:* I send through our mutual friend, Mr. Q. H. Newcomb, a small specimen of sugar from the sorgho, to which I see you have been paying some attention. I have just completed a report on the subject for the United States patent office; when published I will send you a copy. There is about ten per cent. of crystalizable sugar in the cane grown in this neighborhood; it can be crystalized only in part. But I doubt very much if the plant will be as good as the beet root for making sugar. My investigations were executed on a small scale, but sugar of all degrees of purity were obtained. I send you some of the medium quality. I had sent, as I supposed, all that was made, when seeing the inclosed sample on the labratory table, I was induced to forward them to you.

Yours respectfully,

J. LAWRENCE SMITH.

OAKHILL, *Philadelphia, December*, 30, 1857.

S. FRANCIS, ESQ., *Cor. Sec. Illinois State Agricultural Society:*

Dear Sir: The editor of the Germantown Telegraph having sent me this day's paper, containing some extracts from your letter to him, in which you express a desire to have some of the sugar and molasses made by me from the Chinese sugar cane, with instruction in regard to its manufacture, and offering to forward them to you for me, I have taken advantage of his kindness, and placed in his hands a box containing samples of the different qualities of sugar, and of the molasses I have made, and also the yield I have obtained per acre. The quantity I have is not sufficient to supply one-fourth the applicants for it, even in small samples, and thus far I have declined to send out any, as my report of the process and experiments is not yet ready for distribution, it being in the hands of the printer, who will not have it printed for about ten days; but as your convention will meet before that time, I make an exception, and send the samples in advance, and will forward one or more copies of the report when ready, to be disposed of as they or yourself may determine.

I will, however, briefly state, for their encouragement, that the *actual* yield I have produced per acre is, brown sugar, 1,221.85 lbs.; molasses, 74.39 gals. And I have no doubt but that with proper apparatus and good cultivation, from 1,600 to 1,800 pounds of such brown sugar, and from 95 to 110 gallons of such molasses per acre, can be obtained without difficulty.

I am pleased to hear of so much enthusiasm in your State in regard to this new and valuable acquisition to our list of agricultural products, and hope next year to hear more about *sugar* and less about *syrup*. I am, however, not surprised that our farmers have not succeeded in making sugar at this early stage of the experiment, as they have not as yet the requisite knowledge and experience, but I am somewhat disappointed to find that our scientific experimentalists have entirely failed to produce any useful results, or indeed any results at all.

I can, however, assure you that there is no difficulty whatever in producing such sugar as the samples sent herewith, which I hope to demonstrate in my report. Meantime, I am, very truly,

Yours, &c.,

JOSEPH S. LOVERING.

On motion of Charles Kennicott, it was

Resolved, That the thanks of every member of this convention, and of all persons throughout the Union, who take an interest in the successful production of sugar and molasses from the Chinese sugar cane, are eminently due S. Francis, Esq., Corresponding Secretary of the Illinois State Agricultural Society, for his enthusiastic efforts in collecting valuable information, and in bringing together the members of this convention.

Unanimously adopted.

On motion, adjourned until two o'clock, P. M.

—

Afternoon Session.

At two o'clock P. M. the meeting called to order, Governor Reynolds in the chair.

A communication from Judge Caton was read, and ordered to be made part of the record:

SUPREME COURT ROOM,
Springfield, January 7, 1858.

S. FRANCIS, ESQ., *Secretary, &c.—Dear Sir:* I send you a small sample of granulated sorghum, which is all I have left of the result of the single experiment which I made. Like all other samples which I have seen, the grain is too fine for the glucose to separate readily from it, which I have never attempted to wash out, though I have no doubt it may be readily done, but probably at too great an expense to make the production of dry sugar profitable. I regret that I have not yet had leisure to pursue a regular system of experiments, which I had designed. Before our experiments may be considered a complete success, we must obtain an evener grain. To this indispensable point our chief aim must now be directed. If I can spare the time, I will step into your room this morning, but it is uncertain. While I am of opinion that the experiment promises the brightest hopes, yet I think there is danger of the public expectation becoming too highly stimulated, a partial disappointment of which may produce a reaction more injurious to the cause, in the end, than more moderate expectations and a slower progress.

Yours truly,

J. D. CATON.

On motion of S. Francis, Esq., the following resolution was adopted:

Resolved, That this convention tender their thanks to Joseph S. Lovering, Esq., sugar refiner, of Philadelphia, for the specimens of sugar and molasses manufactured by himself and forwarded for the examination of this body.

Mr. Gage desired to add Mr. Belcher's name, some specimens sent by him having been overlooked.

On motion of Mr. Hedges, Mr. Belcher's specimens were placed before the Agricultural Committee, to be reported on in order.

On motion of Mr. Francis, the following resolution was adopted:

Resolved, That this convention feels itself under obligation to all those gentlemen who have furnished specimens of Chinese sugar cane sugar and molasses for examination, and that each of them be furnished with a copy of its proceedings.

The committee on constitution and by-laws, through their chairman, J. C. Medill, made the following report:

The committee, after mature consideration, have arrived at the conclusion that it would be inexpedient to form an association, separate and distinct from the general State Agricultural Society. We would suggest that it is unsafe to distribute our power over too large a surface; and as sugar growing is as much a part of agriculture as is wheat growing or butter making, and as the general Agricultural Society will, in any event, take cognizance of the particular branch which we have met to investigate, therefore, we would offer the following, as embodying the opinion of this committee:

Resolved, That the presiding officers of this convention hold their present places during the continuance of this meeting, and until others be appointed to succeed them; and that they may be empowered to call the association together again, whenever, in their judgment, a contingency may arise demanding such meeting.

The Mechanical Committee, through their chairman, A. Henderson, Esq., of Morgan county, made a report, which, after considerable discussion, Messrs. Gage, Hedges, Hawley and Shaw participating, was amended and adopted, as follows:

The committee to whom was referred so much of the business of the convention, as pertains to the mechanical department, report: That they do not feel qualified to recommend for adoption any particular mode of expressing the juice of the cane. They would, however, state it as their opinion, that an approved machine should be made of three smooth cast iron rollers, which may be placed horizontally or vertically, and moved with a slow motion, not exceeding sixteen feet a minute; but whether it is preferable to use steam or horse power, or what particular mill should be used, this committee does not feel prepared to decide.

The Agricultural Committee, appointed to examine specimens, made the following report:

Your committee would report as follows: Mr. D. T. Nicholas, of Logan county, shows sugar from Chinese cane, mixed with molasses, having a very gummy appearance; fine grained; syrup boiled 9th of October. Some portion boiled more thoroughly produced sugar as above stated, after standing three or four days.

J. H. Smith, of Adams county, shows a specimen of syrup boiled thick and crystalized almost in mass; crystals are destitute of rhombic form under the microscope. A description of the process was sent with the specimen, but having been mislaid has been rewritten, and will be furnished hereafter.

Specimens exhibited by Mr. Pearson, of Springfield; samples of syrup very fair color and flavor; ripe cane, made in copper kettle; clarified with milk and eggs; no alkali used; does not believe it necessary. Second specimen, boiled thick; showed fair crystals after standing six hours. Small specimen clarified with blood, considered rather preferable.

Specimens by A. Henderson, of Jacksonville, Illinois; the specimen beautifully clear, syrup of fine color, but unpleasant under taste.

Specimen by Josiah Sawyer, Tremont, Tazewell county; fine, clear sample of syrup, rather too dark, and possessing some unpleasant flavor.

Specimen by Stephen Peterson, of Sangamon county; dark color, tolerably clear, and quite unpleasant flavor.

Specimen by Lucius C. Francis, of Sangamon county, is a specimen of rather dark syrup, not unpleasant to taste, but dirty, from improper treatment of cane.

Three specimens of different consistency, from R. Kimball, of Tazewell county; dark color, unpleasant flavor, but well cleansed.

Sample by D. G. Waller, of Franklin, Morgan county, is clear, but too dark, not unpleasant; fair specimen.

Specimen by B. R. Hawley, of Christian county, made in November, very dark, exceedingly bitter and unpleasant.

Specimens of several gallons by C. G. Taylor, Rock Island county, color dark, shows evidence of two much lime; much unpleasant, bitter taste.

Specimen by J. F. St. James, St. Genevieve, Mo.; very fair specimen; not unpleasant taste; clear color, light; possessed of free acid.

Specimen of bright syrup from Rush county, Indiana, presented by Mr. Hedges of Cincinnati; taste almost equal to honey; beautiful clear crystals of sugar at the bottom of jar revealed by microscope, which shows perfect forms. Name of producer unknown.

Mr. Hedges presented four other specimens of crystalization, two brown, two clay color.

Specimens of syrup filtered through animal charcoal and reboiled by Mr. Hedges. Taste delicious, superior to anything exhibited—color bright brown, consistency of golden syrup—bearing considerable resemblance to maple syrup.

Specimen of syrup by A. Rockwell, Jacksonville; very well clarified, rather dark, fair flavor.

Specimen of vinegar by same, of a whitish milky color; needed age.

Specimen manufactured by Col. R. Peters, of Georgia, in 1846; greater portion of it crystalized; the molasses mingled with it very bitter, dark and unfit for use.

Specimen of syrup made from pith of the cane by Mr. Dickinson, of Kentucky, clear as amber; but slightly fermented under the action of the free acid present.

Specimen of new rum made by Ingram & Son, of Cincinnati, Ohio, color entirely clear; flavor good—lacks age; yield one gallon from eight of cane juice; of which a fair average is 1,800 gallons per acre.

Specimen of vinegar made by Mr. Hedges, of Cincinnati; from the simple juice by adding about one pint of brewer's yeast to the barrel and keeping it in a warm place, it will be good vinegar in about four weeks.

Committee submit the letter published above of Messrs. Lovering, of Philadelphia, sugar refiners; which accompanied beautiful loaf crushed or clarified and two qualities of brown sugar, with samples of sugar-house molasses; all excellent.

Specimen of sugar made and presented by Mr. J. R. Pelham, Mt. Vernon, Ohio; fine grained, light brown, possessing considerable gum.

Specimen of meal from the sorgho seed presented by Mr. Hedges; when made into bread had no unpleasant taste; somewhat resembling buckwheat mixed with rye.

The imphee seed is on high, straight tufts, very abundant, having a general resemblance to that of Chinese sugar cane, but much lighter in color.

A specimen of Chinese sugar cane seed, raised by Stephen Peterson, of Sangamon, well ripened.

Samples of sugar from Mr. Belcher, of St. Louis, and made by J. Lawrence Smith, of Louisville, Ky., consisting of two specimens of brown, white and clarified, are all good and crystals fine, and your committee would recommend the publication of the accompanying letter from Mr. Smith the producer. (See letter above.)

Specimen of brown sugar from Col. Ives, of Bayou Boeuf, La., considered fair.

Sample of syrup by George Lindly, made by Mrs. Clark Baker, of Joliet, from cane grown by Mr. C. Baker. The canes from which it was made were cut early in October, laid on the ground four or five days, then carried to the farm for fodder, being there until the 30th December the juice was expressed and boiled down, making about one gallon of syrup to six of juice; it was well clarified, of fine color, good flavor, but rather dark. The canes were exposed to the hard freezing of November. Mr. Mills stated that he made some seventy gallons of fine syrup, which on first trial yielded one gallon to five of juice, on second trial, one gallon to four of juice.

Messrs. Gage, Hawley, Hedges and others made remarks.

On motion, the report of the Agricultural Committee was adopted, and the report of the committee on organization taken up for action.

On motion of Mr. Medill, the office of Corresponding Secretary was added to the list of officers. Charles Kennicott, of Chicago, was then appointed to fill said office. The report was then adopted.

On motion, it was

Resolved, That the President and two Vice-Presidents appoint one person from each congressional district to collect facts, and report to the convention at a future time.

Under this resolution the following appointments were made:

1st District, CHARLES ROSENSTIEL, Freeport.
2d " H. D. EMERY, Chicago.
3d " A. WITHERS, Bloomington.
4th " JOSIAH SAWYER, Tremont.
5th " J. H. SMITH, Quincy.
6th " S. FRANCIS, Springfield, Chairman.
7th " S. H. ELLIOTT, Paris.
8th " DR. REUSS, Shiloh.
9th " B. G. ROOTS, Tamaroa.

On motion, adjourned *sine die*.

J. D. CATON, *President.*

CHARLES KENNICOTT,
FRANK W. REILLY,
J. W. KITCHELL,
Secretaries.

ILLINOIS STATE HORTICULTURAL SOCIETY.

PROCEEDINGS OF A MEETING HELD IN BLOOMINGTON, DECEMBER 14, 15, 16 AND 17, 1858.

Pursuant to notice, extensively circulated through the press and by private correspondence, the gentlemen below mentioned assembled in the city of Bloomington, to take part in the discussions which form the subject matter of this report. In justice to the members and to the Committee on Publication, it is necessary that the members, having immediate charge in preparing the report, should, at the outstart, state that no regular short hand reporter could be procured, and that the report is made up from notes taken by the Secretaries of the Society. Of course the exact language of the speakers has not always been given, although the editors have endeavored to adhere strictly to the spirit of the notes taken on the spot.

MEMBERS.—M. L. Dunlap, Urbana, Champaign county; Samuel Edwards, La Moille, Bureau county; J. H. Blodgett, Bloomington, McLean county; A. R. Whitney, Franklin Grove, Lee county; Lewis Ellsworth, Naperville, Du Page county; Smith G. Minkler, Specie Grove, Kendall county; George Barry, Godfrey, Madison county; J. F. Lobdell, Centralia, Marion county; Henry C. Freeman, La Salle, La Salle county; George H. Bulock, Centralia, Marion county; C. W. Holder, Bloomington, McLean county; Wm. M. Howell, Central City, Marion county; Martin Allen, Mendota, La Salle county; W. P. Willis, Bloomington, McLean county; Jesse W. Fell, Bloomington, McLean county; D. Withers, Bloomington, McLean county; Verry Aldrich, Tiskilwa, Bureau county; O. M. Coleman, Bloomington, McLean county; J. M. Hunter, Ashley, Washington county; Wm. Yates, Tamaroa, Perry county; S. Francis, Springfield, Sangamon county; Arthur Bryant, Princeton, Bureau county; Nathan Shaw, Tremont, Tazewell county; A. G. Handford, Waukesha, Waukesha county, Wis.; (Representative of Wisconsin Fruit Growers' Association,) C. T. Chase, Chicago, Cook county; Frank Starr, Alton, Madison county; C. A. Simpson, Vincennes, Knox county, Ind.; Charles Kennicott, Odin, Marion county, Ill.: A. R. Cory, Centralia. Marion county; C. R. Overman, Bloomington, McLean county; N. Overman, Canton, Fulton county; G. W. Bushnell, Canton, Fulton county; J. N. Ingram, Centralia, Marion county; Rev. George W. Minier, Mackinaw, McLean county; Jonathan Huggings, Woodburn; Prof. J. B. Turner, Morgan county; O. B. Galusha, Lisbon, Kendall county; Dr. R. B. Clark, Morris, Grundy county; Isaac B. Drury, Rock Island county.

HONORARY MEMBERS.—N. J. Coleman, Editor Valley Farmer, St. Louis; F. R. Elliott, Editor Farmer, Miner and Mechanic, St. Louis; A. G. Hanford, Editor, Waukesha, Wis.

In addition to the above, many gentlemen were present as guests of the Society. Among them, Professors Hovey, Roe and Wilkins, of Bloomington, and Messrs. Lewis & McCracken, of the Bloomington Pantagraph.

FIRST DAY—MORNING SESSION.

About 10 o'clock, such of the members as had arrived in the city were escorted by C. W. Holder, Esq., of Bloomington, to Central Hall. In the absence of Dr. Hull, the President, the Society was called to order by O. B. Galusha, Corresponding Secretary. Lewis Ellsworth, of Du Page county, was elected President, *pro tem.*, and Charles Kennicott, of Marion county, Recording Secretary and Treasurer, *pro tem.*

Mr. Galusha, in a few words, stated the objects of the meeting, and expressed his satisfaction at seeing before him so many of the leading fruit growers and nurserymen of the State. It was important that the convention should be properly organized, and he would move that a committee of three be appointed to prepare business for the Society. Carried. And O. B. Galusha, of Kendall county; J. N. Ingraham, of Marion, and C. R. Overman, of McLean, appointed said committee. As comparatively few of the members expected had arrived, it was thought inexpedient to go into an election for regular permanent officers.

M. L. Dunlap, of Champaign county, stated that he hoped the discussion of pomology would be made the prominent feature of this winter meeting. His remarks were well received, and many of the gentlemen present said that they concurred with him in his views.

The President expressed the obligation the Society was under to those gentlemen who had been able to present the fine and unexpected display of fruits which they saw before them.

On motion of Mr. Dunlap, it was voted that an invitation be extended to the members of the press in the city to meet with us, and give us their assistance.

Mr. Holder was appointed a committee to tender said invitation to the gentlemen of the press, to whose assistance, and many courteous attentions the convention was afterwards largely indebted.

On motion, it was voted to adjourn till 2 P. M.

FIRST DAY—AFTERNOON SESSION.

Convention met, pursuant to adjournment, the President, *pro tem.*, in the chair.

The report of committee to prepare business was submitted and accepted.

The President stated that the subject for discussion for the afternoon and evening would be the cultivation of the apple. * *

This session was mainly occupied in discussing the propagation of apples from seed, the details of which being chiefly important to nurseymen, are omitted here.

Members attach much importance to the selection of seed from hardy trees. Considerable discussion was also held relative to the grubs and other worms so destructive to the young seedlings and root grafts.

C. Kennicott moved that a committee of three be appointed to take the matter under their immediate charge and report at the next annual meeting. Several gentlemen spoke in favor of the resolution, and one of them suggested that the committee should be appointed one from the north, one from the centre, and one from the southern portion of the State. Some waggish member thought it ought to be called the *grub* committee, and that the members should be allowed no extra rations. The resolution was finally unanimously carried, and the chair appointed the committee, viz: Robert Kennicott, of West Northfield, Cook county, for the north; M. S. Bebb, of Odin, Marion county, for the centre, and C. Thomas, of Marion, Williamson county, for the south.

Prof. Roe, of McLean, said that he would like to impress upon every gentlemen present the great importance of supplying the Committee on Insects with information and with specimens. This convention has done a good work in calling attention to this subject.

FIRST DAY—EVENING SESSION.

Society met at half past six, the President in the chair.

Mr. Bryant, of Princeton, read an essay upon the culture of the apple and its diseases. [Appended to this report.—*Sec.*]

A letter from J. C. Starr, of Alton, was read, and ordered to be placed on record.

M. L. Dunlap stated that he hoped to be able to make up from his own notes a tolerably full and reliable report of the Alton convention. The regular record was unfortunately lost, probably beyond recovery; but, as gentlemen know, it was from no fault of the officers of the Society at that time in charge.

On motion, it was voted that Mr. Dunlap be authorized and requested to prepare such report at his earliest convenience.

F. K. Phœnix moved the appointment of an assistant Recording Secretary, *pro tem.* Carried. And Samuel Edwards, of Bureau county, appointed. Adjourned till 9 o'clock to-morrow.

SECOND DAY—MORNING SESSION.

Met at Central Hall, pursuant to adjournment, Vice-President Ellsworth in the chair.

DICUSSION ON THE ORNAMENTAL BRANCH OF HORTICULTURE, AND THE INFLUENCE OF THE STUDY AND PRACTICE OF THIS SCIENCE UPON THE MORALS OF THE YOUNG.

The President called the attention of the gentlemen of the convention to the fact that from his elevated seat he could see modestly ensconced in a distant corner of the hall a gentleman they would all be glad to welcome and hear from. He would, therefore, invite Mr. Coleman, of St. Louis, editor of the Valley Farmer, to address them.

Mr. Coleman expressed his thanks to the chair, and stated that he came to listen—not to speak. Did not know that he had a

right to be considered as a legitimate member, as he was a citizen of St. Louis.

M. L. Dunlap—Mr. President: I protest against the views of our friend Coleman. He is an agricultural editor, and therefore belongs to the whole west. Moreover, we claim St. Louis as in reality an Illinois city; the mere accident of its being within the borders of another State, and on the farther side of the great "Father of Waters," is no proof that it does not belong to us, Valley Farmer, Coleman and all.

Mr. Ingraham, of Marion, moved that Mr. Coleman be declared an honorary member. Carried unanimously.

Mr. Galusha, of Kendall, spoke for some minutes in regard to the relations which the Society sustains towards the public. Great things are expected of us. We are, to a certain extent, looked upon as the most competent advisers, the best guides in all that pertains to western pomology and horticulture at large. Let us endeavor not to disappoint these just expectations. The Society is now popular; let us keep it so. Our time is precious. Some of us can ill afford the expense of coming here; now we are here let us work. Let us remember, too, that this is the Illinois State Horticultural Society, and though many of its members are nurserymen, let it never be said that this is a nurseryman's society. Perhaps we had best drop this discussion on stocks, though it is most interesting and as important to fruit growers as it is to nurserymen—the very foundation of success. At former meetings we have accomplished much good by establishing fruit lists; but we have always too much neglected the ornamental branches of horticulture, and there is even more need at present that we should enlighten the people on that branch than on fruits and the culture of fruit trees. The beautiful in horticulture is intimately connected with our every day life; the cultivation of trees, shrubs and flowers is every year becoming more common. I know you all rejoice at the sign. I feel that you will all willingly foster this evidence of good taste and refinement in the people. We can assist them greatly by guiding, fostering, and directing their efforts to make the homes of our State pleasant and beautiful. It is for us to establish, teach and recommend a system of practical horticulture that can be readily understood and easily put in practice by all classes of our citizens. The people will purchase and plant what nurserymen and florists furnish. Let us then enlighten ourselves, and grow those trees, shrubs and plants that are known to be desirable, that have proved themselves suited to our soil and climate. In fact, let every nurseryman grow those things that the people ought to have, not the things that they can be made to buy. I hope the subject of the cultivation of ornamental trees and plants, and the effect upon the morals of the young, will now be taken up. The subject is a most interesting one. It will be popular with the people as it deserves to be. If we can beautify every home in the State with trees and flowers, then shall we accomplish a great good. I have

always noticed that the inmates of such a home are always refined and intelligent, and the sons and daughters of such families are not so often noticed squandering the precious hours of youth in idleness or frivolous pleasures. I am warmed into enthusiasm when I think of the great change a real love of horticulture would work in our rural homes. Let us endeavor to awaken a still greater interest in ornamental gardening, and let us show the people how they can derive the most good from our discussions.

Mr. Bryant, of Bureau county—Nurserymen should give tone to the taste of the people. We have hitherto paid too little attention to the subject. The ornamental branch of the business has been comparatively neglected, though a decided change has taken place within a few years, and nurserymen are beginning to discover that in a mere pecuniary point of view it pays to raise evergreens, flowering shrubs and plants. The people are eager for them when once convinced that they can be cheaply obtained and easily grown. We ought to discuss the subject of culture as well as to recommend the right varieties. If a better stock and greater variety of ornamental plants could be found in our home nurseries, men of wealth, who pay attention to the adornment of their homes by laying out and beautifying the surrounding grounds, would not, as now, send to eastern establishments to have their orders filled. The trade in those articles is much more remunerative than that in fruit trees, and but a small portion of it is given to home nurseries. Nor does the evil stop here. Our people are not only in some sense compelled to send their orders east and run all the risk of distant transportation and heavy charge for freight, but they are too often furnished with articles unsuited to our prairie soil. Many thousand dollars are thus sent out of the country, and in return it often happens that nothing is received but blasted expectations. This is not so much the fault of eastern dealers as it is the want of practical information on the part of their western customers.

Mr. Phœnix considers this an important matter for many reasons. We are to take the incipient steps for completing one of the most beautiful ground works for lovely homes in the world. We have soil unrivaled for fertility, with no waste land—eventually must be a very wealthy country, densely peopled, and should develop a high state of refinement. True, we have every discouragement to contend with—severe changes of climate—from an almost tropical summer to a frigid winter—liable to suffer from many casualties, scarcely known elsewhere—very important that we start right.

Though we have so many obstacles to contend with, they should only stimulate us to greater vigilance and industry. "We ought to know no such word as fail." The effect of gardening upon the young would be salutary. Children at the west have a great deal of peculiarly American independence, much of the free and easy, not so much controlled by the conventionalities of society as at the east.

We see it on every hand. If there is to be a Mexican war, or a raid on the borders, western young men fill the ranks.

If we would tame down this spirit, we must make our homes beautiful and attractive—attend more to discipline. As a people, we are too much disposed to live by our wits. He contends that tilling the soil is really a luxury, though by many the farmer's life is looked upon as too tame.

The idle luxury of many is a great cause of the present crisis. We need to make productive labor attractive—to create in the young, by cultivating a sense of the beautiful, a love of home. The tastes of the young are too much cultivated for a love of the artificial to a neglect of the beauties of nature.

We must begin in the good work. Teaching by example is the most effectual of all modes of instruction. The seed will fall in good ground and bring forth an hundred fold. True, fruit trees should precede or supercede the ornamental, if one must be dispensed with.

Mr. Coleman, of St. Louis, stated that the subject possessed great interest for him, still he felt but little like giving his views before gentlemen so experienced in the practice and well versed in the theory of horticulture. If he could see before him an audience of farmers he should feel assured of the good results of an open discussion. But if we can interest farmers and show them that we do not assemble here for selfish ends, we shall soon have them in attendance at our conventions and taking an active part in furthering a good cause, in bringing about reforms so greatly needed.

Mr. Ellsworth, of Du Page—The cultiuation of flowers is the poetry of our profession. Too much cannot be said upon the subject. I hope that this Society will always give it that prominence which it so richly deserves.

Mr. Galusha, of Kendall, related some pleasing incidents that had come under his own observation, illustrating the natural love which most children have for flowers. The very sight of a fine boquet will at any time arrest the attention of children and cause them to stop their play as long as the beautiful object remains in sight.

In our new country many planters have only means to buy a small lot of the more common fruits. In such cases he has often given a specimen of the more common hardy ornamental shrubs, with especial injunctions to cultivate well. As a commencement is made, a desire for them rapidly increases; in a year or two they come again to purchase a bill of shrubbery.

Mr. Kennicott said he had often carried flowers through the streets to see what effect would be produced upon those who saw them. It did not take many such experiments to convince him that most persons have a love for flowers, and that with children this natural taste amounts to a passion. Let any one carry a handful of flowers slowly by a group of school children and see how quickly their eyes will sparkle, and their sweet voices be raised in

praise of, or to ask for the flowers. Who can doubt the importance of fostering this natural love of the beautiful, so maked a feature in the disposition of children.

S. Francis stated that he felt a deep interest in the subject, and had labored for many years to increase the taste for ornamental trees and flowers. He was proud of Springfield, and doubted if any city in the west could show more and better gardens, in proportion to its size and wealth. Their horticultural exhibitions were popular and well supported; he had known from six to eight thousand visitors in the hall in a single day of their exhibitions; he was proud to be able to boast of the taste of his fellow townsmen in this particular. Agricultural and horticultural papers paid more or less attention to the cultivation of flowers, but they often failed to accomplish any real practical good, and sometimes even led their readers astray. Common things are too much neglected and new and fashionable novelties eagerly sought after. In his opinion we ought to appoint a committee to prepare a list of shrubs for general cultivation.

Mr. Kennicott was pleased with the suggestion of Mr. Francis. Would have each member hand in a list of proved sorts, adapted to his locality, with the cost, or stating how much in that line could be had for a given amount of money.

Mr. O. M. Coleman, Bloomington, was much pleased with the remarks of those who had preceded him, especially in relation to evergreens—thought them especially adapted to his section of country. We ought to rightly educate our children, inculcating in them a love for the beauties of nature.

Mr. Dunlap likes the plan of Mr. Francis very much, would not have flowers overlooked in the rage for evergreens.

We have a succession of flowers for the whole season, that afford, with proper culture, the most exquisite gratification. We should do all we can to disseminate information as to the most approved modes of cultivating and wintering choice flowers. Should urge upon people the fact that much gratification could be realized from a single dollar's worth of flowers.

Mr. Ellsworth—People generally think evergreens difficult to transplant—a very great mistake. When well provided with fibrous roots they bear transplanting as well as an apple tree. The roots must be kept from drying when out of the ground. They grow well on the prairies. Planted 28,000 small ones imported from France, had scarcely lost 50. Has had no trouble or loss in removing large ones from nursery.

Mr. Kennicott—We must try to educate the people, especially through the press. Every cultivator ought often to write short, practical articles for our horticultural and agricultural papers, and not leave it all for the editors. The influence of gardening upon health is generally overlooked. Our females need more fresh air and exercise to check the physical degeneracy that is certainly fastening upon the American people.

Mr. Coleman, of McLean—I agree to that, and hope the list will commence with evergreens, for they are the cream of all the beautiful things that ought to be familiar objects around every man's home. I am afraid few of us have ever sufficiently considered the influence which trees and flowers have upon the popular mind, especially upon children. I like flowers, but evergreens I consider indispensable; they are in every way beautiful—they belong to Heaven and are universally recognized as a symbol of the resurrection of life. They make summer of winter and cause us to forget that the flowers are sleeping and the birds away.

Mr. Dunlap—I am pleased to see the discussion taking this direction. It shows that these old friends that I see around me care for something more than dollars and cents—that the love of the beautiful born with them has never been eradicated. Mr. Francis' suggestion to prepare a list is an excellent one. We can so arrange it that for a few dollars any person may become the possessor of a modest but really rich display of floral treasurers. I think we ought to commence with common things—cheap but good, and every way desirable, like roses, snowballs, &c. We must teach the people not only what to buy but how to cultivate.

Mr. Kennicott—We have but just begun to look at this subject. There is a great amount of innate love of the beautiful in the masses. We need to make good taste democratic. Teach the masses to replace coarser flowers with perpetual roses, beautiful tulips, pinks, and all the finer flowers. Our mechanics need facilities for indulging in their love of the beautiful. He would like too see our country made so beautiful that when foreigners of learning and refined taste came among us, they would be impelled to write home such letters as Washington Irving wrote from Europe about the cottage gardens of England. We must take more pains to display our fine native flowers, than which no class is more admired in Europe.

Mr. Bryant—To make our discussion of practical benefit, we must go into particulars.

Mr. Coleman, of St. Louis—As has been before remarked, we have one of the most beautiful countries in the world, but we need shelter for man and beast from the blasts that sweep over our prairies. We must make the farmer see that it will pay in dollars and cents—is confident it can be done. Plant belts of evergreens for shelter. Recommend to have a lawn of one or two acres or more adjoining the house and there group trees after nature's model. We need a Downing to infuse anew a spirit of love for the beautiful through our land. The great object of farmers should be to make home attractive; the want of it is a great cause of the dislike of farmer's sons for their homes. No pursuit so natural or truly desirable; if properly conducted the most attractive of all pursuits.

By request of several members, Mr. Edwards, of Bureau, gave his experience: I do not think that I can give you any new information on this subject. The culture of evergreens has been for thirteen years a favorite occupation with me. In that time I have handled over 300,000. All things considered, I prefer to plant early in spring, as soon as the ground is fairly settled. I do not consider that there is any more danger of losing evergreens by transplanting than there would be in removing fruit trees—in fact I would rather insure them—if they have been properly grown. Although early spring is the best time to plant they often do well enough planted quite late. The new tree digger, invented by Harkness, will, I think, be valuable for root pruning evergreens—and they should always be root pruned or removed every two or three years while they remain in the nursery. Extra large trees should be removed in the fall or during winter with a ball of earth attached.

Mr. Coleman, of St. Louis—Do they form new roots when planted in the fall?

Mr. Edwards—Yes.

Mr. Coleman—Which kinds succeed best with you?

Mr. Edwards—The pine family. When I first went into the business of growing evergreens, I was warned that they would not sell, planters would lose them and farmers would never care much for them; but I never had reason to complain of a want of custom for all the evergreens I could raise. The people are beginning to discover that they are valuable and that they pay in dollars and cents. The time is coming when every prairie home will be surrounded with them. A home and farm buildings surrounded with evergreen belts and screens occupy quite another climate during winter than the one common to exposed situations. For ornamental hedges and screens I prefer and recommend the Norway spruce to all others. The red cedar is excellent for the same purpose, being much better than the American arbor vitæ on our dry prairies.

Mr. Kennicott—Do you think the red cedar would make a hedge capable of turning stock?

Mr. Edwards—Yes. I have a piece of cedar hedge good enough as a protection against cattle if closely trimmed.

Mr. Kennicott—Have you tried planting evergreens in August, or at the period of natural rest?

Mr. Edwards—Yes. The Norway spruce with good success. For manure I like that from the chip yard; leached ashes is also good, but must not be applied in too great quantities.

In planting young trees from the forest I consider mulching and shading all important. Apply the mulching liberally in June. I plant the trees in rows running east and west, then shade with factory cloth or with brush that will maintain their foliage. In arranging the shade I place a board on the south side and immediately over

the trees the shades, with the south side the lowest. I do not think it necessary to shade trees grown in the nursery. Evergreens, more than any other trees used for protection, combine the useful with the beautiful. I think that every prairie orchard in the State should be protected with them. For this purpose the Norway spruce is the best of all evergreens.

Mr. Ellsworth—I prefer to plant in May. The soil is then generally in the very best condition, and their growth is less checked than at any other season.

Mr. Coleman, of St. Louis—I fully agree with Mr. Ellsworth.

Mr. Francis—Has any one had experience with the Deodar cedar and the Himmelayian evergreens? I fear they will not suit our climate.

Mr. Bryant—Has tried them and cedar of Lebanon, protected, as he thought, sufficiently, but lost them. Pinus excelsa he has saved, but the terminal buds are somewhat injured by winter; it needs shading from the direct rays of the sun in winter, as also does the hemlock.

Mr. Phœnix—Will find the same effect to some extent in all varieties of hardy evergreens.

Mr. Bryant—If they have been accustomed to shade they will turn their color; this can be prevented to a considerable extent by shortening the ends of the limbs in the fall, particularly applicable to red cedar.

Mr. Galusha—I have been experimenting pretty extensively with trees from the forest the past spring and with good success. The kinds were red cedar, white pine and arbor vitæ. Those moved the earliest did the best. I selected cool, showery days in which to remove them, and was very careful not to expose the roots even for a few minutes. Trees planted in August should always be mulched.

On motion of Mr. Francis, this was declared a regular meeting of the Illinois State Horticultural Society.

On motion of Lloyd Shaw, the section in constitution making it necessary to hold election for officers at Springfield, on Wednesday after first Monday in January, was stricken out.

On motion of Mr. Francis, the following clause was inserted in the constitution, to-wit:

"The President, with the consent of a majority of the Vice-Presidents, may call the annual meetings of the Society at any time and place, for the purpose of electing officers and the transaction of other business."

Also—

Resolved, That the by-laws be so amended as to conform to this provision.

Society proceeded to the election of officers.

C. R. Overman, of Bloomington, was unanimously elected President, by acclamation.

1st Vice-President, Robert Douglas, of Waukegan.
2d " " A. R. Whitney, Franklin Grove.
3d " " M. L. Dunlap, West Urbana.
4th " " Lloyd Shaw, Tremont.
5th " " K. K. Jones, Quincy.
6th " " Jonathan Huggins, Woodburn.
7th " " Uri Manley, Marshall.
8th " " James Hunter, Ashley.
9th " " Wm. Yates, Tamaroa.

Corresponding Secretary, O. B. Galusha, Lisbon, Kendall county.
Recording Secretary, Samuel Edwards, La Moille, Bureau county.
Assistant Recording Secretary, F. Starr, Alton, Madison county.
Treasurer, Arthur Bryant, Princeton, Bureau county.

Arthur Bryant, of Bureau, was appointed a committee to wait upon the President elect and conduct him to the chair, a duty that he performed amid loud applause.

Mr. Overman, on taking the chair, addressed a few earnest words to the Society, in which he said: Gentlemen, I hope to look back upon this period some years hence as the dark age of horticulture. The time for earnest toil has come. There is need of a concentration of effort, which I trust your many hearts will accord to the cause and to each other. We must all do our utmost to accomplish these results and bring about those desirable changes which the people of our proud State will expect and require of us. Horticulture is one of the great industrial pursuits, and there is need that we all endeavor to use our best energies to increase the number of its votaries, to make it a pursuit popular and easy to be followed. If you are all, as now, actuated by a friendly feeling and a determination to bring about what you see ought to be brought about, your efforts will soon be felt in the right direction, and this Society become one of the most useful institutions, not only of our State but of the whole west.

On motion of Mr. Galusha, a committee, consisting of Messrs. Galusha, Francis, Phœnix, Ellsworth, Dunlap, Edwards and Minkler, was appointed to examine and report upon the fruits on exhibition.

A communication from C. E. Hovey, Esq., President of the Normal University, was read. It contained an invitation for the Society to visit that institution.

On motion of Mr. Francis, it was voted to accept the invitation and visit the school at 9 o'clock A. M. the next day.

Letters were then read from Rev. George W. Minier, of McLean county, and from Henry Shaw, Esq., of Tazewell county.

Mr. Minkler exhibited seedling roots kept over two years in his cellar. The President called attention to the fact, that they were still plump and fresh.

Mr. Minkler also demonstrated his method of dibbling in grafts. The mode of dibble which he prefers was two and one half inches wide, six or eight inches long, broad at top and tapering with

curved sides to a point at the bottom; resembles a bricklayer's trowel. The blade should be made of thin steel, the handle of wood, and in much the form of a chisel handle.

On motion of Mr. Ellsworth, the discussion upon the culture of apple seedlings was resumed. Members recommended trench-plowing, clean culture, and thinning out of plants. The subject of propagation by grafting and budding was taken up and occupied the forenoon and a large portion of the afternoon sessions. Many modes were detailed; but members were nearly all agreed upon the following points, viz: That scions should be cut in autumn after hard frost, and packed in a cool cellar in slightly damp moss or saw dust; roots packed in same manner or in mixture of earth and saw-dust; that the second cut of the root is as good as the first for grafting; corn-husk an excellent material for tying the grafts; wax not necessary; after grafting, pack in same material, taking care to have grafts well surrounded with it. Grafts should be planted early in the spring before starting much.

Mr. Dunlap introduced his mode of stock grafting cherries; whip grafts with no tongue, wraps with linen thread, commence at bottom, taking care to secure the end well by covering as you wind; at top, slip the thread between the scion and stock, then cover with wax; as the tree grows cut the thread to prevent girdling. Cut scions in the fall, as they are sometimes injured in winter; can save ninety-five per cent. of cherries; generally graft them the last of anything, even after the leaves are nearly expanded. The Early May, sometimes called Early Richmond, is *the* cherry for this climate. Graft plums in the same way; does not bud at all. In grafting large stocks, slope at back and side of stock to about size of scion, this makes the thread less likely to displace the scion. Takes up peach seedlings, and cuts scions in the fall; cuts stocks off just above the collar, and packs away same as apple seedlings. Grafts at the collar, splitting down only *one side* of the crown, as in ordinary cleft grafting, scion cut in wedge form to fit, wraps with waxed cloth. Scions keep perfectly packed in common soil in cellar. Packs grafts in saw dust a little dryer than it comes from the mill; cover liberally on all sides and at top, *never wet them.*

Mr. Galusha is of the opinion that trees in nursery at the east and west are planted too closely in the rows; in order to cultivate between we are compelled to trim too much, thus crippling vitality of trees. He plants in rows three and one-half to four feet apart, trees ten inches apart in the row, intending to remove alternate ones at one year. Advised transplanting a *portion* at two years, leaving them four feet apart in the row, form head two feet from the ground, and sell at a price that would pay for the trouble, as some men want such trees for immediate bearing.

Mr. Kennicott—Glad to see this subject introduced; hopes all nurserymen will adopt this plan to some extent. The best trees,

at remunerating prices, are far the cheapest for the planter. As business is now conducted at the west, nurserymen are compelled to neglect pruning, and do not devote enough of their time to superintendence.

Mr. Ellsworth thinks ten to twelve inches a good distance in the row; three years the best age to set trees in orchards; pay attention to pruning. No apple tree should stand in nursery more than four years.

Mr. Coleman—Would like to see a resolution go forth from this meeting, recommending farmers to buy trees at two years rather than to use larger; the nurserymen can afford them cheaper; will fruit as soon with equal care.

Mr. Phœnix—It is simply a matter of dollars and cents; if men want large trees let them pay a large price. The masses can get as good trees for ordinary planting, from eight to ten inches apart as at greater distances.

Mr. Kennicott—The plan recommended by Mr. Galusha is followed largely in Europe and might be done here. Some of them are wanted by all men making new homes; doubtless, the principal part of trees planted should be of moderate size.

Mr. Galusha—Did not give his plan as advice for nurserymen to follow, but as his *beau ideal* of just the best tree that could be grown; he heartily indorses the proposed resolution of Mr. Coleman. As trees are *now grown*, would rather warrant evergreens repeatedly transplanted than large apple trees.

On motion, adjourned, to meet at College Hall, at six and one-half o'clock this evening, to hear address from Mr. Dunlap, and for discussions.

SECOND DAY—EVENING SESSION.

Society met, pursuant to notice, in College Hall, to hear the address of M. L. Dunlap, of Champaign county. A resolution was passed thanking Mr. Dunlap for his address and requesting a copy for publication.

EVERGREENS AND DECIDUOUS TREES.

By request of members discussion was opened by

Mr. Edwards—Has several times tried starting them from seed, generally with poor success; does not despair however of accomplishing it; intends to "try again." Has had most satisfactory success in importing two to four year old seedlings, (if over two years must have been transplanted) of foreign varieties, from England and France, native varieties from forests of New York, Ohio, Michigan, Wisconsin and Minnesota. Always select plants that have grown in open exposures, as they are much better supplied with fibrous roots than when grown in the shade. The soil from which they are taken should be light, that the fine roots may not be broken in taking them up.

The roots should not be left exposed to dry in the least. In packing care should be taken to have the roots moist and the tops dry. Do not press them down very close, as they are more liable to heat. Bore holes in the boxes to ventilate the tops, put damp moss on all sides of roots next to box to prevent their drying. Prefers plants six to twelve inches in height. Of larger sizes lose a greater proportion and it takes several years for them to become well stocked with branches and the lower limbs are often lost. When they arrive at their destination heel them in carefully and shade the tops. Spade the ground deeply, mixing a liberal dressing of sharp sand with the surface, as they root more readily in it than in ordinary prairie soil. Plant in beds longest east and west, four to five feet wide, in rows six inches apart and as closely as convenient in the row.

Along the south side of the bed drive a row of posts, leaving them eighteen inches above the surface, place wide boards against post to keep out sun and wind. On the north side set a row of posts two and a half feet high, place poles on top of posts to support a shading of brush cut with foliage on. If a dry time, water well at time of planting, keep down weeds and stir the soil occasionally through summer, watering if necessary. In October the shading may be removed and a mulching of leaf mold or leaves given to the smaller sizes to prevent their heading out in winter. Following spring transplant to land deeply plowed, in nursery, rows two feet apart, careful to give trees plenty of space to develop their lower branches. In selling, thin out the rows, and by the second or third year dispose of each alternate row; keep them well thinned out; the only way to grow fine specimens. Transplant or root prune as often as every three years.

In planting screens has set four rows of Norway spruce ten feet apart and a space of ten feet in a row, alternating so that trees in one row were opposite the spaces in the next row. In another instance one row Norway spruce ten feet apart, ten feet back a row of whitepine alternating with the spruce, ten feet back of pines American arbor vitæ set three feet apart. Also one of red cedar, single row, three feet apart. Shorten in limbs of arbor vitæ and red cedar once a year—has not pruned Norway spruce.

Planted clumps of evergreens to shelter buildings from all but southerly winds; where they have attained a height of fifteen to twenty feet, much benefit is already derived from them.

After a driving storm of rain, the ground on the lee side of a row of Norway spruce is dry. Birds build their nests in them in summer and seek for shelter in them from the blasts of winter.

Prepare ground by trench-plowing two furrows deep, take pains to get as many as possible of the fibrous roots in taking up trees. When selling to customers always cover the roots after putting trees in wagon with plenty of straw, and dash water over the straw to keep the roots moist. Plant ground to vines a few years, taking pains to not plant near enough to affect the trees. In June, before

very hot weather, mulches the trees with a liberal dressing of prairie hay or straw. In spring gives a dressing of chip manure and leached ashes.

For upland prairie the pine family, Norway spruce, red cedar and other junipers, Siberian arbor vitæ and balsam of fir are well adapted. On moist soils the spruce and American arbor vitæ succeed better than on upland.

Mr. Ellsworth—Does not the American arbor vitæ grow dense when clumped.

Mr. Edwards—Yes. But they brown badly with us. The white pine succeeds admirably with me. I would recommend both it and Scotch pine for protection.

Mr. Phœnix—[Last winter was unusually mild, and may not prove a safe criterion.—*Publishing Committee.*] Is confident that in this locality the balsam fir, spruces, white and Scotch pines, do well set in the fall; planted last winter in tan, with good success. Red cedar would probably not succeed as well. In Europe they any handled at any time in winter.

Mr. Ellsworth—Would always plant just as they are beginning to start in spring.

Mr. Phœnix—Thinks if Mr. Ellsworth had our hot suns to contend with, he would change his opinion.

Mr. Dunlap—At Urbana, would rather plant in November than May.

Mr. Kennicott—Formerly approved of May planting, now prefers April. Prefers time of greatest rest, which for many varieties is in August. Two years ago moved eight hundred Austrian and Scotch pines two feet high, late in spring; they lived, but their growth was checked, as is always the case with late planting.

Mr. Bryant—Can be moved short distances after starting to grow, but would not be advisable to transport them far.

Mr. Galusha—Last spring commenced getting evergreens from the forest early in April, and moved them at intervals for several weeks; earliest planted succeeded best. A neighbor planted in August with success.

Mr. Kennicott—Some of our native oaks, such as retain their leaves during winter, would be valuable additions to belts planted for protection. I know they are difficult to transplant, still nurserymen might learn how to grow them. I would never recommend the Weymouth pine for planting on the prairies. It appears to do well with Mr. Edwards, but in Cook county it was always difficult to make live, and when once growing was often dismasted by high winds. I believe the Austrian pine the *tree* for protection. It is a more rapid grower (at least I have always found it so) than the Norway spruce. The Scotch is the most rapid grower among the foreign evergreens. The Austrian pine grows dense enough after it gets age, and its color is rich almost beyond comparison.

Mr. Galusha—I can bear testimony of the efficacy and beauty of Mr. Edward's evergreen screen; it is one of the most desirable

things in the west. I have never had any difficulty with the white pine. I would recommend it and the red cedar for belts planted for protection. The cedars I would place on the outside.

Mr. Overman, of Fulton county—We have no trouble with the white pines; they grow readily and finely, and will be very valuable for protection.

Mr. Bryant, of Bureau county—Have never had much difficulty in transplanting evergreens; I believe them invaluable as a means of protection on the prairies. The white pine with us in Bureau county makes a handsome tree, and bears removal as well as any other evergreen. I would rather undertake to remove them than to remove the red cedar. Still, there are other evergreens that I would recommend first for screens and belts. The Norway grows fast enough with me.

Mr. Galusha—White pines are always in good demand in my section of country. I have little difficulty in removing them from the woods.

Prof. J. B. Turner, of Morgan county—It will not be long before every man who owns a prairie farm will learn the value of trees as a means of sheltering his house, his orchard, and his farm buildings from the cold winter winds, so disliked and dreaded. I hope that we shall as a society and as individuals spare no pains to impress upon the people the importance of this subject, the almost absolute necessity of planting trees for protection. My attention was attracted that way at an early day. My first experiment with evergreens was by planting a hedge or belt consisting of many sorts. I did not like it at all; it was too much like Joseph's coat. I would plant but one kind in the belt; or certainly, if I planted different kinds I would plant in separate rows. I like the white pine; have had them grow over four feet in a single summer. The red cedar is hardy and good. About the only objection which I have to white pine is the insect which destroys their beauty. You can rid your trees of these pests by sprinkling lime and dry ashes over them, but that could not well be applied to large trees. Tobacco juice will also destroy them; no insect can stand that, except one, the tobacco worm. I am a great admirer of the hemlock; it is, in my estimation, the most beautiful tree on the face of the earth. I have hopes that it will become common. The American black spruce is a beautiful tree and a dense grower. But, perhaps, the red cedar is, all things considered, the cheapest and best evergreen to plant. Too much can never be said upon the culture of evergreens; we must talk it—evergreens—to our farmers continually, never giving them a chance to sleep soundly till the value of their evergreen hedges and belts in Illinois alone will be estimated at millions of dollars; nothing will do so well as evergreens. The Osage orange is good, but they are better. Belts of them round the barn and cattle yards will make up at least partially for want of shelter now so often seen.

Mr. Bryant—I agree with Prof. Turner in regard to the black spruce; it is a beautiful tree, but grows too slowly; the Norway is better.

Mr. Turner—The black spruce should not be neglected; they are too scarce in our nurseries.

Mr. Phœnix—Who has had experience in raising firs from the seed?

Mr. Edwards—The black spruce is a fine tree, but not to be compared with the Norway.

Mr. Ellsworth, of Du Page county—In my opinion the Norway spruce is the variety above all others for general cultivation. It grows more and more beautiful as it advances in years, and acquires its drooping habit of growth. It is the most desirable of all evergreens, and with me it is not excelled by any other for rapidity of growth.

The President—In answer to Mr. Phœnix's question, I will say, that I have tried raising red cedars from the seed with fair success. I wash the seed, and in warm water, and keep a year in boxes; they do not vegetate freely the first year.

As it is time to adjourn, I would announce the fact, that we are to have to-morrow night an address from Prof. Turner, upon the Philosophy of Plowing and Drainage.

Mr. Edwards—Has been credibly informed, that by mixing berries (after bruising them) with wet ashes, for some weeks before planting, the pulp would be cleaned from the seed and the shell softened so that they will vegetate the first season.

On motion, adjourned till to morrow morning at 8 ½ o'clock, to visit the State Normal University.

THIRD DAY—MORNING SESSION.

The Society met, in pursuance to adjournment, in their own hall' and then moved in a body, headed by the President, to the building temporarily fitted up for the use of the Normal School. They were met and welcomed at the door by C. E. Hovey, Esq., the Principal, who, with that grave courtesy that marks the earnest thinker and the thorough gentleman, conducted them to seats on the spacious platform of the principal school room. The regular morning exercises then proceeded, occupying, perhaps, a half hour. The classes were then detailed to their various recitation rooms, while such of the scholars as remained were addressed by the President of the Horticultural Society, and various of its members. It was a happy time generally, and the address of Prof. Turner, in particular, was well received. No regular minutes were taken of the speeches, and as both of the secretaries were absent from the main room while they were being delivered, they cannot do justice to the merits. Some of the gentlemen of the Society spent a few minutes in each of the recitation rooms; they report that they are proud of the Normal University, and convinced that the method of

instruction pursued, and the instructors employed, are the best in the west. In fact, it was the general opinion of the members of the Society that in the Normal University is to be found the brightest hopes for the future education of our people in all that can make men wise, liberal and practically useful and intelligent citizens. We believe that on that day the Normal School gained many a warm friend and supporter, and that the gentlemen who were its guests on that occasion felt that its teachers were the right men and women for the responsible position which they occupy, that its pupils are earnest searchers after truth, industrious workers, each one well fitted to become the leader of a forlorn hope that will never look back till the schools of our State are all as well conducted and as capable of making teachers as is now the Normal School. At half past ten o'clock the Society left the University and paid a short visit to the model school which is under its management. This was the most delightful part of the visit, and the members of the Horticultural Society returned to their hall with smiling countenances, and the pleasant songs of the little ones still echoing in their ears.

The following are the names of the teachers:

Charles E. Hovey, Principal; Ira Moore, Samuel Willard, C. C. Hewitt, C. M. Cady, Professor of Music, and Miss. M. Brooks. Ninety-eight pupils are in attendance the present term. The model department, under the charge of Miss. M. Brooks, which at present is only a primary department, has fifty pupils. As soon as circumstances will admit, it is expected that the model department will consist of various grades. The new building is planned with reference to such an arrangement.

President in the chair, 11 o'clock A. M. Invitations were sent to C. E. Hovey, teachers and scholars of the State Normal University, and to the board of supervisors of McLean county, in session, to meet with us to hear the lecture of Prof. Turner this evening. Invitation accepted.

On motion of Mr. Francis, a committee of three was appointed to write a report on the best manner of cultivating evergreens and to recommend varieties for general cultivation. Messrs. Francis, Bryant and Edwards were appointed said committee.

On motion of Mr. Francis,

Resolved, That a committee of three be appointed to recommend a list of hardy shrubs and evergreens, with which farmers and others can adorn their homes; stating the range of prices of the same. Also, give the proper method of planting and cultivating them.

Messrs. Turner, Francis and P. B. Bryan, of Chicago, were appointed said committee.

On motion of Mr. Elliott,

Resolved, That each member of the Society be requested to form a list of such varieties of apples as he would personally, upon his own knowledge, recommend for general cultivation.

Resolved, That the Secretary be instructed to collate from all the lists such varieties *only* as are reccommended by *every* member, and add the same to the list already made.

Fameuse, Winesap, Fulton, and Keswick Codlin, for cooking, were unanimously approved.

Prof. Turner—Mentioned an apple grown in his vicinity, called the orange apple, ripe in August, equal to Newton pippin, always commands an extra price, tree a rapid grower, was found in an orchard of grafted fruit, trees were bronght from the east. He sent specimens to Dr. Kennicott and Charles Downing, who could not identify it. Can furnish a limited amount of scions gratuitously.

Mr. Freeman—Has seen the same apple grown in New Jersey, under name of orange apple. Indorses Prof. Turner's account of its excellent quality.

Mr. Minkler—Presented scions of Minkler's sweet for distribution.

Messrs. Ellsworth, Dunlap, Galusha and others, familiar with the variety, spoke very highly of it.

Adjourned to two o'clock P. M.

THIRD DAY—AFTERNOON SESSION.

Met pursuant to adjournment, Vice-President Dunlap in the chair.

On motion of Mr. Francis, the following resolutions were adopted.

Resolved, That the Corresponding Secretary of this Society be and he is hereby instructed to take measures for ascertaining the number and value of the nursery establishments in this State, embracing the value under different heads, in his discretion, with the view of publishing the same in connection with the proceedings of this Society, in next volume of Transactions of State Agricultural Society.

Resolved, That the President and Corresponding Secretary be requested, on behalf of the Society, to memorialize the legislature, at its coming session, to make provision by law for the protection of our gardens, nurseries and orchards against injury and theft.

Resolved, That we acknowledge our obligations to Mr. Hovey, President of the State Normal School, for the invitation to visit that institution; and we desire to express our high gratification with the progress and advancement of the students under his charge; our convictions that the value of that institution to the people of Illinois cannot be too highly appreciated, and the hope that it will continue to increase in usefulness, scattering its blessings and advantages into every nook and corner of our State, in all time to come.

GRAPE CULTURE.

Mr. N. J. Coleman—The Catawba is very liable to mildew; Concord is free from mildew, productive; Norton's Virginia seedling—best wine grape in Southern Illinois, hardy, very productive; from observations this season, believes it will supersede Catawba for wine, on account of exemption from mildew. Diana, Rebecca and Delaware bore this season; promise well. At Hermann, Missouri, the Germans are now planting Norton's Virginia seedling exclusively. Thinks it is not excelled for wine by any of the hardy grapes. The wine made from it is of superior quality.

Mr. Miller—The Herbemont, at Cincinnati, is hardy, productive, not liable to mildew.

Mr. Elliott—The Herbemont generally drops its foliage prematurely; from that cause the fruit is not well matured. German vine dressers in Missouri are much in favor of Norton's Virginia

seedling; Mr. Longworth is sending there for plants. Thinks the wine will be unpopular—too dark and heavy, not of *fine* quality; most Germans are fond of it. Concord promises well, free from disease, mildew and rot. Delaware is almost equal to our foreign varieties of grapes grown in vineries; thinks it will be a fine wine grape at the west.

Mr. N. J. Coleman—The Rebecca is a dessert grape of superior excellence.

Mr. Spencer—Has seen the Rebecca in bearing—a very fine table grape, an excellent keeper after ripe without extra care. Quality fully equal to some of our foreign varieties grown under glass; hardy, ripens three weeks before Isabella.

Mr. Dunlap—The Clinton is very hardy and productive, only to be tolerated where no better can be grown.

CURRANTS.

Mr. Whitney—Is growing white and read Dutch for wine, which sells readily for four dollars per gallon; believes them more profitable than grapes in his locality.

Mr. Dunlap—The currant is better north of line of the lime drift of "lower Egypt" for wine than the grape in most localities.

N. J. Coleman—Has again fruited the cherry currant—still thinks highly of it. Its large size makes it very desirable. Probably not equal to red Dutch for productiveness. The bunches are short, berries very large.

Mr. Ellsworth—The cherry is decidedly larger than any other red variety he has seen.

Mr. Bryant—Finds some of his cherry currants do not meet his expectations as to size.

Mr. Kennicott—His experience has been similar to Mr. Bryant's. The Victoria is late but very acrid. White grape much superior to any other white variety. Finds no difference between red Dutch and long bunched red.

Mr. Elliott—The cherry currant in ordinary soil sometimes produces small berries, but has removed bushes to rich soil and grown much larger fruit.

Mr. Hunter—Short bunched red, red Dutch and white grape are the best he has fruited.

Mr. Huggins—Has fruited the cherry, finds it no larger than red Dutch.

Mr. Ingraham—Has seen the cherry currant grown with care, equal in size to any specimen exhibited by eastern tree peddlers.

Mr. Ellsworth—For general cultivation, thinks there is no variety superior to red Dutch. The currant needs bountiful manuring every year and clean deep culture. Black Naples is the best black variety he has seen.

Mr. Kennicott—They are generally picked too soon—do not bear as early as some varieties.

Mr. Bryant—The Victoria is valuable on account of its ripening

late and productiveness; will hang a month later than red Dutch. For most purposes considers red Dutch best for general cultivation.

Mr. Edwards—Brought his first stock of currants from Mr. Longworth's garden at Cincinnati, before they came into bearing; he ordered some of the genuine red Dutch from an eastern nursery; when they came into bearing, about one bush in twenty from Mr. Longworth's bore the common small red currant—balance, red Dutch; of the *genuine*, about one in five proved to be the common.

Mr. Ellsworth—Has had the same experience; finds some common small white mixed with white Dutch.

Mr. Dunlap—Received from several sources red Dutch; all appear to be the same variety.

Mr. Galusha—Considers red Dutch best; mulches heavily early in spring, with stable manure; gets very fine fruit and abundant crops. In poor soil, without culture, fruit is small; believes red Dutch is common red improved by long continued high culture. Missouri black is a better bearer, and he prefers the flavor to black English. Bushes grow five or six feet in a season.

Mr. N. J. Coleman—Missouri black is a very rampant grower, its greatest fault. Thinks it superior to black Naples.

Mr. Elliott—There is a marked difference between red Dutch and common red. Knight's sweet red is less acid; Knight's long-bunched red larger than red Dutch; Knight's large red about the same as red Dutch. Missouri black is much liked by persons who have acquired a taste for it; ripens in succession. Recommends to give free circulation of air under bushes. All currants ripen much later if sheltered from the sun.

Mr. Dunlap—Thinks the fruit is finer when bushes are sheltered on the west.

Mr. Kennicott—Currants bear better and berries are larger if planted on the north side of the fence, but they are more acid—bushes make larger growth; considers cultivation of the currant for wine an object, but it is not of fine quality and should not be called one.

Mr. Galusha—Stated that Mr. Bush, of Ottawa, thinks from his experience that the red Dutch currants make as good a quality of wine as any of our hardy grapes.

Mr. Edwards—Can detect no difference between black English and black Naples; both bear good crops of very large berries, of musky smell and taste, excellent for jam and jelly.

Mr. Elliott—Black English is loose in cluster; black Naples closer.

Mr. Bryant—Fruit of black Naples larger than black English.

Mr. Ellsworth—Black Naples, black English and Ogden's black appear to him to be identical and valuable, especially for jelly and jam.

Mr. N. J. Coleman—Raises for market to considerable extent; would recommend very highly the American black cap; has several acres of them very productive; American yellow, similar, except in color, to foregoing, is of very fine flavor.

Mr. Myers, of Booneville, Missouri, cultivates it to a considerable extent; considers it superior to all others. Brinckle's orange is one of the most productive varieties; bears too profusely, so as to kill bushes; would advise to cut off bushes nearly to the ground first season; they then throw up vigorous shoots; protects them in winter. Allen raspberry fruited for the first time this season; thinks highly of it from limited experience; canes upright, needs no staking, berry large and firm. Kirtlands seedling (so called) is very fine, large, more conical than Allen—thinks highly of it. Cattawissa—believes this the greatest acquisition that has been made to our list of raspberries: received one hundred last year from Joshua Pierce, Washington, D. C.; this fall bore an enormous crop, ripening in succession fast enough for market purposes, where a person had a quantity of bushes; would not cultivate Ohio everbearing at all if he could get Cattawissa. All the above varieties have proved satisfactory.

Mr. Phœnix—If so much better than Ohio everbearing, would be glad to form an acquaintance with Cattawissa. Ohio everbearing is recommended at the east, his experience has coincided with theirs.

Mr. N. J. Coleman—Ohio everbearing is discarded at Cincinnati.

Mr. Galusha—Has tried Franconi, Fastolf, red Antwerp and some others, all too tender; farmers will not cover them.

Mr. Kennicott—Tried Mr. Galusha's list—let them all go; Brinckle's orange is satisfactory.

Mr. Starr—Best at Alton; belle de Fontenay and Merveille of four seasons prove fine; all varieties are better when protected.

Mr. Huggins—Has tried many varieties; has the Allen this year, fruit large, handsome and fine; made very thrifty growth; best of any he has tried.

Mr. O. M. Colman—Are any varieties better than black cap?

Mr. Starr—We are throwing away black cap.

Mr. Kennicott—Finds none superior in flavor to black cap; knows of many amateurs planting no other variety; thinks some bushes bear much better than others; should use discrimination in selecting plants; bears well in Marion county; native red bears well in some localities, in others, but little.

Mr. Bryant—Has never seen a bush of black cap bear a good crop in Bureau county.

Mr. Shaw—Has thrown out Ohio everbearing; prefers native black or red; berries grown in shade are unpalatable.

Mr. Elliott—Thinks we can hardly dispense with black cap or

native red; large quantities are made into jam on the shores of our northern lakes and find a ready market at Boston and New York; believes the Allen identical with English red cane, which was brought to Cleveland some twenty years since from England, from there went to Buffalo, and is now disseminated from that vicinity as Allen's. The fruit is of a bluish or purplish red, with some bloom, roundish conical, of large size.

Mr. Bryant—Has seen a berry of this description growing wild in Massachusetts.

Mr. Kennicott—Same wild in Cook county, of delicious flavor.

Mr. N. J. Coleman—The Allen is finest of any red he has seen, bears carriage well; black sometimes blasts in Missouri; American yellow does not; procured it from Drury, Rock Island county.

Mr. Freeman—Has seen it in New Jersey; believes it is indigenous there; not as good a bearer as the black.

Mr. Wilkins—Native of Michigan; bears better there than the black.

Mr. Phœnix—Has sometimes seen them bitter; does not know the cause.

Mr. Elliott—Thinks it is a native through all our northern States.

Mr. Bryant—Believes it is a seedling from black cap; same except in color.

Mr. Kennicott—Does not consider it desirable; is confident it is the same as Haskell's yellow; do not need protection in Cook county; never winter kills; have generally left bushes trailing on ground in winter without protection.

Mr. Ellsworth—Haskell's yellow is excellent; none more delicious; canes would not kill except in very severe winters, but fruit is much finer if protected; Hudson river red Antwerp canes are too tender, and it suckers so much as to make it objectionable.

Mr. N. J. Coleman—We can get finer fruit from all varieties with protection.

Mr. Hunter—Black cap is fine in his vicinity; sometimes blasts; also have a native yellow variety, very fine; bears two crops in a season.

Mr. Galusha—In Kendall county, American black cap, white cap, and native red succeed well; generally a frame is made on each side of a row of bushes to keep them in place; produce good crops of fine flavor.

GOOSEBERRIES.

Mr. Hunter—Houghton's seedling much better than any other tried in this vicinity.

Mr. Edwards—Has a variety called the pale red, at Cincinnati; bush of much the same habit as Houghton, but more upright; less

liable to layer itself; equally productive and exempt from mildew. Also a large English variety of green color, imported by Mr. Longworth; has now had it thirteen years; never has shown but very little mildew.

Mr. Elliott—There are distinct varieties of the pale red at Cincinnati, Cleveland and Rochester, all reputed hardy, productive and of good quality; is personally acquainted only with the Cleveland variety, which is very valuable; prefers it to Houghton on account of more upright habits; fruit and bush not as liable to get in the ground; believes they are all of English origin; doubts whether we have any American seedling worthy of cultivation, except the one originated by Charles Downing.

Mr. Fell—Has tried many varieties; none worthy of cultivation except Houghton.

Mr. Huggins—Has a variety received as green prolific; does not mildew; bears abundantly; had thought it might be Houghton.

Mr. Galusha—Cultivated Houghton; deems it very valuable; has shown a very little mildew this season; he mulches heavily with coarse manure and applies salt around the bush in the fall.

Mr. Shaw—Does not Mr. Galusha cultivate too highly?

Mr. N. J. Coleman—Has grown Houghton several years; always very productive and free from mildew; many English varieties all mildew.

BLACKBERRIES.

Mr. Starr, of Alton—About Alton, the New Rochelle has fulfilled all our expectations; they are very productive, and ripen in succession for several weeks. The flavor is, perhaps, not quite equal to a very ripe native.

Prof. Turner—There is much difference among our wild blackberries; some of them are of very large size and superior flavor; if we exercise care in selecting the finest I think it will be discovered that Illinois can show as fine blackberries as any that have been found at New Rochelle. We have at Jacksonville two distinct kinds of value taken from the woods some years since; one of them, an upright grower, possesses a vigorous habit of growth, is very productive and fully equal in size and flavor to the Lawton.

Mr. Dunlap—In southern Illinois have seen the trailing blackberry or dewberry, also the high bush, of enormous size and of excellent flavor—think that some of them excel any we read of. May do better there than when removed. One variety, being nearly round, is earlier than others. Have marked some of them for removing. I have seen some of them so large I do believe that a child would have to use a jack-knife to eat them. I believe that the Lawton, in many sections, has proved to be tender.

Mr. Wills—At Shawneetown there are several varieties of the wild blackberry. The soil and climate of southern Illinois is finely

adapted to produce them in perfection. Have seen the market glutted with them at three cents per quart.

Mr. Ingraham—Have noted some very fine ones in my vicinity and marked them for removing.

Mr. Howell—More different varieties of dewberry than of the upright in his vicinity; flavor generally superior to upright but not as productive. The stalk of the dewberry is round. Has marked about one hundred bushes of both varieties; will distribute gratis to members who desire it.

Prof. Turner inquired what variety of soil.

Mr. Dunlap—Mud drift of Lower Egypt or debris of limestone. Recommends shelter at the north.

Mr. Starr—Thinks dewberry not as productive as high bush.

Prof. Roe, of Bloomington—I believe these Egyptian blackberries to be a little ahead of any others; I was down that way the past summer, and the feast I had upon blackberries I shall long remember, but perhaps the same plants would not do so well here. They may need the warmer climate of those sections.

Mr. Huggins—Has fruited Lawton two years. When fully ripe, equal to the best in flavor and much larger than the common.

PAW PAWS AND PERSIMMONS.

Mr. Wills—I have never known the paw paw succeed well when transplanted. The persimmons of southern Illinois are the finest I ever saw, twice as large as in Ohio, flavor nearly equal to dates.

Mr. Fell—Abundant in Union and Pulaski counties—of superior flavor and enormous size, bear transplanting well; paw paw does not.

Mr. Shaw—Indigenous in Tazewell county.

Mr. Kennicott—Mr. Reynolds, of Marion county, has an abundant crop of them of superior quality. The smaller varieties are of finest flavor. Mr. Bryant has the largest ones he has seen.

Mr. Miller—There is a variety in Madison county ripe early in September.

Mr. Bryant—Has grown as large ones in Bureau county as any represented here; transplants with difficulty unless of small size. Prepare and plant seed same as the apple. Large ones fully equal in flavor to small. One tree, which has always produced staminate blossoms and no fruit previously, this year bore three specimens of fruit.

Mr. Howell—Some varieties in his vicinity ripen in August, others follow in succession, some are at this time but just fully matured.

Prof. Roe—The persimmon is really a superior and valuable fruit, well worthy of cultivation wherever it will succeed.

Mr. Kennicott—It should not be forgotten that it is a winter fruit, and that fact adds greatly to its value. That they are deli-

cious and healthful I know from my own experience. They are also highly ornamental.

Mr. Shaw—I have never found them difficult to transplant.

Mr. Miller, of Alton—With us they bear enormously.

STRAWBERRIES.

Mr. C. R. Overman—The strawberry is, perhaps, the most delicious of all fruits common to our country. It is most important that we should have all the information that can be obtained upon the subject.

Mr. Dunlap—Has tried some forty varieties; approves of early scarlet; McAvoy's superior and Hudson; has Wilson's Albany on trial. The cultivation is very simple at the west; many have failed by doing too much; succeed best a little shaded; winter protection desirable; considers smallest sized berries the finest flavored. Many persons have been taught to believe, that none but skillful gardners can raise fine strawberries; this is a mistaken idea; no fruit can be so easily raised, and none pays better for the care bestowed.

Mr. Turner—Has a variety called Carolina, planted on southern slope; manured highly, watered, cut off runners, etc., for ten years, never made a good meal from them in the whole time. Gov. Duncan's gardner had plants from him, planted on sod—moister soil, they bore bountifully. He then removed to moist land, where they bore well for three or four years, then failed. Finds the strawberry very choice of location—bear well in some places, in others only a short distance from first, yield nothing.

Mr. Galusha—Tried twelve to fifteen varieties. Taking all things into consideration, preferred necked pine; perfectly hardy, bears good crops of medium sized berries of good flavor.

Mr. Edwards—Esteems necked pine highly for its hardiness and productiveness. Has known crop to fail when planted on highly manured land. Would not manure at first; after three years would dress with well rotted barnyard manure and leached ashes, harrow over the bed as frost was coming out in spring, tearing up half the plants; has had a bed thus treated; bear well six years. Tried in all about forty varieties; McAvoy's superior, Longworth's prolific, Peabody's seedling and Wilson's Albany are all fine; thinks the last named variety bids fair to supersede all others in his locality.

Mr. Shaw—Prefers to make new plantations every three years.

Mr. Starr—Has fruited Longworth's prolific, Wilson's Albany, Peabody's seedling, and some twenty other varieties. Longworth's prolific far superior to all others.

Mr. Dunlap—The strawberry needs deep culture; I have frequently had the fruit destroyed by drouth. Any number of successive crops can be grown from the same bed by using manure and thorough culture—spading under one half of the plants an-

nually. At the same time it is a matter of economy to make new plantations every two or three years.

Mr. Galusha—Mr. H. L. Brush, of Ottawa, informs me that the necked pine succeeds the best with him.

Mr. Kennicott—None of the varieties have done better in Cook county than large early scarlet. Necked pine also succeeds well. The Wilson's Albany seems to be popular with all who have tried it. Some cultivators about Chicago speak highly of crimson cone.

On motion of Mr. Galusha, it was voted that the Society remain in session until 3 o'clock P. M. of the next day. A brief letter was read from Adnah Williams, Esq., of Galesburg, expressing his regret at not being present, and his hope that the Society would prove invaluable in its results, and its members be always actuated by the same friendly feeling and earnest enterprising spirit which had ever characterized them.

WHORTLEBERRIES.

The President—A prominent nurseryman in Indiana planted on prepared, thin, poor soil; the variety grown on high land did not succeed; thinks the swamp variety would do better.

Mr. Huggins—Is confident that both varieties can be grown here by selecting soil; has ordered both varieties for trial.

Mr. Phœnix—Believes they can be grown. Does not like to favor the idea that there is any plant indigenous in our climate which we cannot cultivate.

Mr. Howell—It is indigenous and very fine on hills of Monroe county in this State.

The President—They are also to be found in Ogle county.

Mr. Kennicott—In my opinion, these same whortleberries are truly toothsome, healthy and every way excellent. Hundreds of bushels of them sold in Chicago the past year at high prices; they came mostly from Michigan, I think. One of the varieties is a native of the Lake Shore, in Cook county, but it seldom bears well. I do not think that many real systematic efforts have been made to cultivate them in gardens.

Adjourned to meet at Phœnix Hall.

THIRD DAY—EVENING SESSION.

Society met, pursuant to adjournment, the large and fine hall being crowded with the citizens of Bloomington, including many ladies.

The President called the meeting to order, and introduced to the audience Prof. J. B. Turner, of Jacksonville. His address was listened to with great interest. After he was through with the written address, he spoke a few eloquent and earnest words in favor of industrial education. Afterwards Mr. C. T. Chase, of Chicago, and Mr. M. L. Dunlap, of Champaign county, were sev-

erally called out, and addressed the audience on the improvement and elevation of the masses. It was then voted to adjourn, to meet at Centre Hall, 9 o'clock A. M. of the next day.

FOURTH DAY—MORNING SESSION.

The Society met pursuant to adjournment, the President in the chair.

On motion, it was voted that A. G. Hanford, Esq., of Waukesha, Wis., representative of the Wisconsin Fruit Grower's Association, and F. R. Elliott, Editor of "Farmer, Miner and Mechanic," St. Louis, Mo., be declared honorary members of the Society. A discussion then took place upon

PEAR CULTURE.

Mr. Bryant, of Bureau county—From my own experience I cannot speak encouragingly. I have been planting standard pear trees for twenty years, and dwarfs for the last eight. The blight has been the great cause of failure. It killed nearly all my trees, and the rest were pretty much destroyed by the cold winters. I know of no way to produce good pears in any quantity, but I shall keep on trying. Mr. J. Stevens, a gentleman residing in Princeton, and not over two miles from his own place, has a few fine standard pear trees, planted some eight or ten years ago. The soil is common prairie, the trees perfectly sheltered by buildings on all sides, except the south. They are thrifty and handsome and bear satisfactory crops. Among them are the Bloodgood and Flemish Beauty.

My own trees have always been carefully planted—some in grass land, others in highly cultivated soil. I have never been able to discover any difference in their liability to blight. I know of no remedy for the blight. I never have been able to save my trees by cutting back. Sometimes I succeeded in checking it for a single season, but it would return the next. I once had a tree of the Madeline attacked eight feet from the ground; I cut it down to sound wood. The next season the blight appeared four feet lower down. The next year it was free from blight, but the fourth year it blighted down to where it had been budded. I had a fine tree of Flemish Beauty, which began to blight. I did not cut off the dead part. After a time the blight ceased and the tree grew well, but the next year killed entirely. I think that dwarfs are quite as liable to blight as standards. What fruit I have been able to raise has always been fine, and I have no doubt the trees could be successfully grown and fine crops produced, were it not for the blight. I have never perceived that a difference in the stocks made them more or less liable to blight. My seedlings blight as badly as the worked trees.

Mr. Starr, of Alton—There are a large number of old pear trees on my place, planted by Dr. Hull. Many of them were killed by

the winters of 1855 and 1856. Standards and dwarfs are like subject to blight. I have never perceived any benefit from cutting back, but I think that trees standing in grass land are less affected. Some years since one of my Seckle trees began to blight badly in the bark. I shaved off the outside bark and washed the tree with strong lye, and it has never blighted since. I think that old trees are less liable to blight than young ones. I am now setting out a pear orchard, and shall seed it down to grass. Bartlett, Madeline, Belle Lucrative, Burre, St. Nicholas, Vicar of Winkfield and White Doyenne blight more than any other varieties.

Mr. Kennicott—In Cook county, Dr. Kennicott has planted out half a dozen pear orchards, including very many varieties. Very few of the trees are now alive. The Buffum is the only one that has entirely escaped the blight, both in the nursery and orchard. It produces abundant crops of excellent fruit. Flemish Beauty blights but little, and is every way satisfactory. Occasionally raised fine crops of White Doyenne and Bartlett. Never knew Seckel to blight. Osband's Summer stood the winters well. We have never found dwarfs as liable to blight as standards. They are the first to fall though in cold winters. I am of the opinion that there are very few localities in the northern part of this State where dwarfs will be found profitable. Mr. John P. Reynolds, of Marion county, has six seedling pear trees, supposed to have been sprouts planted about forty years ago. They are handsome, healthy trees, over a foot through. They bear well, and the fruit has been sold in St. Louis market for $300, in a single season. I have seen dozens of fine trees in other parts of the country, some of them nearly as large. I think that section will soon beat Boston on pears. Our planters are sanguine of success. One gentleman near Centralia is said to be planting out thousands of dwarfs. There is not much use planting in common black prairie soil, unless it be thoroughly underdrained. It is the great secret of success in pear culture. I have never seen finer pears east or west than those grown in Marion county.

Mr. Fell—In my nursery at Quincy, my experience was very discouraging. All the varieties, with the exception of the Seckel, blighted. Here, in McLean, I have one hundred dwarf trees, planted in clover. They have been out three years, and have never shown symptoms of blight.

Prof. Turner—I have paid much attention to pear culture for the last fifteen years. The result of my observations has led me to believe that blight is caused either by fungus or fermentation of the sap. The proximate cause may be an insect, described by me, some years since, in the "Horticulturist." It can be killed, as can all insects injurious to trees, by spirits of turpentine. In my opinion, want of air at the roots facilitates the operation of all proximate causes of blight. In planting my first pear trees, I dug holes six feet deep, filled them with bones and soil intermixed. I lost the whole of them. I have since planted on thoroughly

trenched soil, and have been successful. I believe it entirely useless to plant the pear on our ordinary soils, unless underdrained or stirred three feet deep. On our rich soils, planters had better throw their money in the fire than plant trees on undrained ground. I have known pear trees escape winter-killing where they were covered with grape vines. The roots of the vine absorbed the excess of moisture and afforded protection from the sun in summer and cold in winter. The trees will sometimes blight on sandy ridges. If the spores of fungus are in the air from trees in the vicinity, they take the blight as if by contagion. In those sections of country where the soil is naturally underdrained, I think the pear will succeed, but I do not believe there are ten acres of land in Morgan county where the pear can be successfully grown, or the dilapidated orchards renovated, without underdraining or inverting the soil. I have one tree set on the surface of the soil, to cover which I carted in dirt. That tree is doing finely.

F. G. Cary, Editor of the "Cincinnatus," was at my house this season. After traveling considerably through Central Illinois, he had made up his mind that pear culture was impracticable, but, after examining my trees on underdrained ground, he reversed his opinion. The Professor said he would take the opportunity to recommend the "Cincinnatus" as a periodical eminently worthy the support of every gentleman present.

I am a believer in the glue remedy for the rot in grapes. It consists simply in dipping the young cluster in a solution of glue.

Mr. Chase—Suggested that the blight on trees might have an analogous origin with blight on grain, grass, &c., as it had been observed most commonly to occur where a great amount of moisture and a high degree of heat were both present during the period of vegetation.

He did not claim that they were all the same thing, but suggested that, as they had commonly been observed to occur when these two phenomena came in conjunction, they might be referable to the same prime cause.

Microscopic observations, made by several scientific gentlemen in Tennessee, early in June, when the rust on oats made its appearance, detected animalculæ in the juice of the green leaf of the oat before rust appeared on it. By numerous examinations it was evident that as they grew they either eat through the cuticle of the oat or caused the cuticle to burst. In either case the juice exuded and formed fungus. They had no doubt of the animalculæ being present in the juice of the plant before the fungus appeared, and that they were identical with those which were present afterwards, but they could not account for the presence of *noxious* animalculæ in an apparently healthy plant.

Mr. C.—That if such was the case their presence might be accounted for in the same way as animalculæ that became apparent to the naked eye in standing water in hot weather. During periods of excessive wet weather, the underdrained soil has no means

of discharging its surplus water. The roots of plants are stimulated to overaction and take an amount of water beyond the necessities of the plant. The vesicles of the plant becoming surcharged beyond their power to elaborate, the surplus is retained, and becomes comparatively stagnant during periods of excessive heat, at which time the animalculæ make their appearance. He saw no reason why animalculæ might not thus be produced as well as in a pitcher of water, where their presence was very commonly noticed in hot weather. If the thing be true, different appearances under which blight manifested itself might be accounted for to some extent, at least, by the different kinds of sap or juice elaborated by the plant, which took a variety of forms when it became fungus. Underdraining and pulverizing the soil was evidently the remedy indicated. He offered the suggestion as mere theory, which might be sustained or otherwise by further observations.

Prof. Turner—Said the idea had never before occurred to him, and thought it plausible. If it should prove on further investigation as stated by the scientific observations Mr. C alluded to, he thought the solution correct.

The President—Has in former years made the pear his hobby, and promised himself much pleasure in enjoying its luscious fruit; it was his favorite over all others; planted an orchard of one hundred and thirty trees some thirteen years ago; remained tolerably healthy till they commenced bearing, when they blighted; has repeatedly brought on poor stocks—several thousands—lost them all by leaf blight; no hope of succeeding unless by underdraing.

Mr. Galusha—Commenced planting eight years since; believes serious obstacles exist to pear culture, but that by underdraining and screening a revolution may be effected; had some standard trees winter-kill; dwarfs do not blight; have borne two or three years.

Mr. Dunlap—His experience with dwarf and standard has been adverse; thinks there are localities in Southern Illinois where the pear will succeed admirably, but not in the north, without underdraining. A German in his vicinity planted two thick belts of forest trees, in the centre of each left a space; in one he planted a white Doyenne pear tree, in the other a black Tartarian cherry; both are hardy; now large trees and bear good crops; do not start as early as if the roots were not shaded. He (D.) has a Buffum pear planted in 1844 on land not trenched; has never borne; is now commencing to blight; has younger trees of Buffum and Flemish beauty on ground trenched three feet deep sheltered by timber; these have borne satisfactory crops.

Mr. Phœnix—Knows one tree in Delevan, Wisconsin, commonly called sugar pear, ripens in September; was budded on apple stock; in planting out the bud was set several inches below the surface, and the pear has thrown out new roots; last season it bore seven bushels of fine pears; it stands on the brink of a basin; surface soil about two feet deep; the subsoil loose white gravel, per-

fectly sheltered by balm trees and shrubbery; appears perfectly healthy; other pear trees in same vicinity have succeeded tolerably well.

Mr. Dunlap—Of one hundred and fifty varieties of apples in nursery, the severe winter of 1855 found them all hardy where protected; believes this idea of tenderness of varieties will become obsolete when our orchards and nurseries are protected.

Mr. Coleman, of McLean—Is not underdraining necessary?

Mr. Kennicott—Does not deem protection desirable in Southern Illinois; believes orchards succeed best there in open exposures.

Mr. Dunlap—Has traveled considerably in Egypt; from his own observation and experience of others, would prefer shelter there.

Mr. Phœnix—Orchards in this vicinity invariably succeed best when sheltered; have never failed of a crop entirely.

Mr. Coleman, of McLean—Would advise to dig deep holes at the time of planting, and underdrain afterwards if unable at time of planting.

Mr. Dunlap—We have plenty of native rapid growing trees, which would very soon make excellent protection; the addition of evergreens would be very desirable, and they can now be had at reasonable rates when wanted in quantity.

Mr. Dunlap—Stated that so impressed was he with the importance of underdraining and shelter for the pear, that he had not yet planted a tree at Urbana, and should not till he could do it to his satisfaction. It was much the same with all fruit trees; there was no denying that half the orchards in the State were comparatively worthless, because on undrained soil and in exposed situations. He for one thought it was time the truth was told, and he did not believe it would discourage the planting out of orchards.

Mr. Galusha—Expressed the same opinion, but he did not wish a false impression to be conveyed to the public; fine fruit, especially apples, could be raised all over the west, even on undrained soil, still, nothing would pay so well as attention to draining and protection.

Prof. Turner—In Morgan county no orchards are sheltered, and yet they are the most profitable part of the farm. No doubt they would be still more profitable if underdrained and sheltered; they are both desirable, but not in my opinion indispensable.

Adjourned till 2 o'clock P. M.

FOURTH DAY—AFTERNOON SESSION.

Afternoon session met, pursuant to adjournment, Vice-President Dunlap in the chair.

Resolved, That we recommend to every person who plants an orchard on the prairies, that he take measures to protect it by a belt of evergreens or deciduous trees.

Resolved, That we also recommend thorough underdraining, or a least, deep trench-plowing, to all who would do full justice to their trees in planting.

Resolved, That as a means for the development of the agricultural and horticultural societies of our State, we hail with the highest emotions of pleasure the effort now making at Washington to secure the passage of the bill commonly known as Morrill's bill.

The subject of the next meeting being under discussion, Prof. Wilkins proposed Bloomington; Mr. Whitney named Dixon; after some desultory remarks Bloomington was unanimously agreed upon for the next annual meeting, to be called by the President at about this time of the year.

On motion of Mr. Galusha, the President was authorized to fill out committees and appoint officers to fill the board as provided for in by-laws, also authorized to pay from the funds of the Society any bills incurred by this meeting.

On motion, Messrs. Galusha, Edwards and Kennicott were appointed a committee to prepare a report of the proceedings of this meeting for publication.

The resolution, Mr. Edwards, the Recording Secretary, states, was lost or mislaid, and never came into his possession.

On motion of Mr. Whitney,

Resolved, That the thanks of this Society be tendered to the citizens of Bloomington, for the very kind manner in which the several members have been welcomed to the hospitalities of their firesides. It is but another proof of the well known characteristics of the people of the west, that they are always to be found with "their latch strings out."

On motion of Mr. Galusha, a vote of thanks was tendered to the proprietor of Phœnix Hall, for the gratuitous use of the room for the lecture of Prof. Turner, on Thursday evening.

On motion of Mr. Bryant,

Resolved, That the thanks of this Society be tendered to the press of Bloomington, for giving notice and publishing the proceedings of this convention.

Adjourned *sine die*, at 4 o'clock P. M.—closing the most interesting meeting of horticulturists for discussions ever held in the west.

C. R. OVERMAN, *President.*

CHARLES KENNICOTT,
SAMUEL EDWARDS,
Recording Secretaries.

APPENDIX.

Your committee appointed to examine fruit respectfully report:

That the display, though limited in quantity, contained a large number of known varieties, many of which were as fine specimens as we have ever seen. The collection exhibited by M. L. Dunlap, from the orchard of K. K. Jones, Esq., was very fine, containing some twenty varieties, (three or four of which we are not able to name) among which were beautiful specimens, Esopus Spitzenburg, yellow bellflower, Newton pippin, winesap and English russett. Two varieties we were unable to name, viz: a sweet apple, large and of good quality, resembling Belmont in external appearance, and "No. 2," a good sub-acid winter fruit.

Authur Bryant, of Princeton, exhibited a few choice specimens from his extensive and well known orchards. Among these we notice large, showy samples of northern spy, good in quality, though not equal to Roman stem, Jonathan and some others. Also, ladies' sweeting, good, but not equal to book recommendations. Fine specimens of Jonathan werefound in this collection. This is a most beautiful, high flavored, long keeping fruit; Mr. B. says, "a good bearer, and deserving more extensive cultivation in the west than it has yet received." In this opinion your committee fully concur. The collection exhibited by Mr. Ingraham, raised by Mr. Gilbreth, of Jefferson county, and A. J. Pearcy, of Centralia—among these were numerous specimens of Newton pippin, superior in size and external appearance to the best samples of this fruit grown in Northern Illinois. We found here several varieties which we were not able to identify—fine appearing fruits, probably of Southern origin.

Samples were also exhibited by Verry Aldrich, Esq., and Wm. M. Howell. In this latter collection were specimens of a seedling, raised by Mr. Barker, of Clinton, which were voted "good" by the committee and others who tasted it, and worthy of a further trial. We subjoin a description:

Large, roundish, oblong; ends nearly equal, regular, stem short, often in a shallow, irregular cavity, calix open in a rather deep faintly russeted basin; fruit heavy; general appearance light, mostly yellowish and yellowish green, with most of the surface covered with light red stripes; deeper red on side exposed to the sun; flesh yellowish or with green tinge, fine grained, quite juicy, with brisk, pleasant flavor.

Mr. Howell says, the tree is upright in growth, hardy, and a regular bearer, "equal in habit of bearing to Carthouse."

Mr. Overman brought in a basket of fruit grown near Bloomington, containing fine specimens of apples and pears, but they unfortunately came too late for examination.

There may have been other parcels of fruit which were overlooked. The design of exhibitors being not for display, but to have fruits tested or named, less care was taken in their arrangement upon the tables than would otherwise have been. We would recommend persons exhibiting fruits for examination to have each specimen labeled or numbered, that committees may have something to refer to as designating the specimens which they may wish to describe.

O. B. GALUSHA,
F. K. PHŒNIX,
S. G. MINKLER,
Committee.

LIST OF HARDY SHRUBS, EVERGREENS AND PLANTS, FOR A SMALL YARD, RECOMMENDED BY M. L. DUNLAP, COSTING $5 00.

1 Norway Spruce, 2 feet high	$0 50	1 Double Red Pæonia	$0 25
1 White Pine, " "	50	1 Chinese Honeysuckle	25
1 Snow Ball	25	1 Red Rosa	25
1 White Spruce	25	1 Variegated Rose	25
1 Mountain Ash	25	1 Climbing Rose	25
1 Barberry	25	1 White Phlox	25
1 Persian Lilac	25	1 Red "	25
1 Wieglia Rosea	25	Box and packing	50
1 Japan Quince	25		$5 00

APPLE CULTURE IN ILLINOIS.

ADDRESS, BY ARTHUR BRYANT,

BEFORE THE STATE HORTICULTURAL SOCIETY, BLOOMINGTON, DECEMBER 14, 1858.

It is my present object to make some remarks upon the obstacles to the successful cultivation of the apple in this state, and as far as I am able to suggest the means of their removal. So numerous are these obstacles, that it cannot be expected that I should, in the limits of a short essay, do more than briefly discuss some of the principal. The idea may suggest itself, at the outset, that the greatest obstacle to success in the cultivation of the apple

is the ignorance and negligence of most of those who engage in it. This may be true; but the fact being admitted and the remedy obvious, it is needless to enlarge upon it here. It is by attending to and discussing the minor difficulties, that the greater is to be removed.

Among the enemies of the apple, insects hold a prominent place; and among insects the most destructive to young orchards in this state is the borer. My horticultural friends are doubtless well acquainted with this insect; but it is not for those who already know as much or more than myself that I write. Many of those who plant trees are, at the outset, scarcely if at all aware of the existence of such an insect, and most are ignorant of the best methods of preventing its ravages. Entomologists recognize the existence of many species of the borer, and three are commonly destructive to the apple tree in this state, while two or three more occasionally attack it. The most destructive of these, and the only one mentioned in fruit books, is that known as the apple borer. This insect, in its winged form, is about three-fourths of an inch long, of a dark brown or lead color, with a longitudinal white stripe on each wing and two long, white antennæ curving from its proboscis to its opposite extremity. It deposits its eggs at the collar of the trees during the months of June, July and August. I have never been able to discover that it punctures the bark to deposit its eggs—in fact, I have reason to think that it does not. The worm, when hatched, bores through the bark, and for the remainder of the season feeds on the wood immediately beneath it, penetrating deeper as the winter approaches, and descending towards the root. The next summer it bores the wood in different directions, and passes the second winter in or near the heart of the tree. The following spring, the worm now full grown, and about an inch long, changes to the winged form, and emerges from the tree sometime in the month of June, through a hole bored horizontally from the heart, usually higher up the tree than where it entered. The ravages of this insect may be prevented by surrounding the collar of the trees, early in June, with leached ashes; also, by an occasional application of soft soap, lye or a solution of potash to the stems of the trees. The trees should be examined several times during the summer, and the worms removed if any are found. Their presence may readily be known by the dust they throw out, and during the first season they may be destroyed with a flexible wire or the point of a knife. If they are too deep in the wood to be reached by these, they may be killed by thrusting into the hole a small pledget of cotton dipped in spirits of turpentine or camphorated spirits, and plugging it with a piece of wood. A pint of sulphur, a gallon of soft soap and tobacco water enough to make the mixture of the consistence of paint, is said, if applied to the trees in June, to insure their safety from the borer for the rest of the season. I hope I may be pardoned for digressing here so far as to remind some of my brother horticulturists that they may in

some such way make a much better use of their tobacco than by passing it through their own mouths, to say nothing of its being more agreeable to their families and others who are compelled to receive its odors at second hand.

The next species of borer of which I shall speak is, I believe, commonly confounded with that above mentioned, but is really different. In size and color it resembles the first, except that its back and wings, instead of being striped, are curiously mottled with white. It is, I think, the same which is found in the hickory and other forest trees. As far as I have observed, it is seldom if ever found in orchards remote from forests, while those near woods are certain to be infested with it. This specious attacks only the branches and stem of the tree at some distance from the ground. It makes a slit in the smooth bark resembling the scratch of a cat, in which it deposits its eggs. The time of its continuance in the tree is the same as that of the first mentioned species. The same washes will prevent its attacks, and after it has entered the tree it may be destroyed in the same manner.

Another species is that sometimes called the bark borer, from its feeding exclusively upon the *cambium* immediately beneath the bark, never penetrating deeper into the wood except to pass the winter. This species, I think, remains in the tree but one year. I do not know the insect in its perfect form. The worm is smaller than the preceding species; its body is flattened, with the joint next the head twice as broad as any other part of its body. It rarely, if ever, attacks apple trees, except where the smooth bark is exposed to the full power of the sun, or has been otherwise rendered unhealthy by bruising, laceration or injudicious pruning. There are no external indications of its presence until after its work has been accomplished. Its attacks may be prevented by the washes above mentioned, and by protecting the stems from the sun. Young trees which are made to lean toward the north-east by the prevailing south-west winds, are frequently attacked by this insect on the south-west side, particularly if the stems are long and naked. To prevent this trees in exposed situations should be set leaning towards the south-west and allowed to form low heads. Any young tree grown in an open situation will, if permitted, protect its stem with branches and leaves, and cultivators will do well to take a lesson from nature in this respect.

The apple worm has, of late, taken a prominent place among the insect enemies of the cultivator. Time was, not many years since, when this pest was hardly known in our orchards. The past season almost the entire product of many was destroyed or greatly injured by it. The worms are produced from the eggs deposited by a kind of moth in the blossom end of the fruit, in June. The best mode of checking their ravages is probably the destruction of the worm-eaten fruit immediately after it falls, either by gathering it up and feeding it to animals or by keeping swine in the orchard. A neighbor of mine, who has, for the last two summers, adopted

the latter practice, had this year by far the best crop of apples in that vicinity.

The worm leaves the apple soon after it falls and seeks the tree, where it spins a cocoon, and winters in some place of concealment. Probably many of them might be destroyed by scraping the trees in spring and washing them with strong lye or a solution of potash. Small fires kindled in the orchard after dusk, in June, are said—I know not with what truth—to attract and destroy the moth, as well as other mischievous insects.

The fire blight, although less commonly fatal to the apple than the pear tree, has, nevertheless, done much injury to the orchards of this state. It is not my purpose, at present, to enlarge upon this subject, about which so much has been said and written, and the discussion of which has been so unsatisfactory, as far as practical results are concerned. Various causes of this disease have been assigned, but nothing certain is yet known respecting its origin. Some eminent cultivators have strongly insisted that hot, moist weather—showers, alternating with sunshine—is essential to produce the disease; but those who, in this state, have carefully observed it, in its frequent recurrence, during the last fifteen years, know well that here, at least, no such concatenation of circumstances is necessary for its development, but that at any time, while the tree is growing—in spring, summer or autumn—in dry and cool as well as in hot and moist weather—it may appear in all its virulence. Trees growing in all the different soils and exposures of Northern Illinois have been affected by it. Certain localities, it is true, have hitherto escaped; an exemption for which no satisfactory reason can be assigned. It attacks all the species of the Pyrus family, as well as some kinds of forest trees, with which they have no affinity. In most cases only the terminal shoots and small branches of apple trees are affected by it, and they may then be expected eventually to recover; but where, as not unfrequently happens, it attacks the trunk or large branches, it destroys the tree.

The remedy commonly proposed for this disease is cutting away the affected branches down to the sound wood, and burning them. In large orchards, and trees of considerable size, the application of this remedy is simply impracticable; where it is not so, my own experience leads me to consider it about as efficacious as the whisk of a conjuror's wand. Accident or investigation and experiment may, perhaps, disclose some effectual remedy. In the meantime, we must bear its visitations as we best may. For three years past it has scarcely appeared at all. It may, like some epidemics among the human race, gradually die out and disappear.

Another difficulty in the way of apple culture arises from the sudden and great vicissitudes of our climate, combined with the stimulating richness of our soil. This branch of my subject, embracing in its bearing the consideration of the hardiness of varieties, and of different modes of propagation and cultivation, with other matters, takes altogether too wide a range for the limits of

the present essay. I shall, therefore, content myself with making a few desultory remarks. And first, I object to the disposition so generally manifested, to make the effects of the late severe winters a test of the hardiness of varieties. Those who do so appear to me to make the mistake—a great though a common one—of thinking that a particular instance establishes a general proposition. If the fact be established that the same degree of cold experienced during those winters will, under ordinary circumstances, destroy certain varieties, then, indeed, it is all right. But it would seem that an examination of the lists of hardy, half hardy and tender varieties made out by different cultivators is sufficient to convince any one of the futility of such attempts at classification. I have seen no two that agree. Some cultivators rank the Early Harvest, Porter, Red Canada, American Golden Russet and Fallenwater or Fallenwalder, as perfectly hardy—the Red Astracan, Fameuse and White Winter Pearmain, as tender. Others consider the former as tender and the latter as hardy. Probably there are scarcely half a dozen varieties in general cultivation that would be considered hardy by all. Even the Yellow Belleflower and Small Romanite did not in all instances escape. Many other considerations might be urged to the same effect; but these must suffice for the present. I will close by proposing two or three subjects for the consideration of my horticultural brethren. First, whether healthier and longer lived orchards cannot be grown in the soil usually called barren than on rich prairie. Whether it is good policy to stimulate young orchard trees with manure, and whether nursery trees so stimulated are as hardy as those grown without manure. And finally, are young trees which make a very rapid growth during the first season from the bud or graft ever afterward as hardy as those which have grown more slowly at the outset?

ADDRESS, BY HON. M. L. DUNLAP,

BEFORE THE ILLINOIS STATE HORTICULTURAL SOCIETY, AT BLOOMINGTON, ILL., DEC. 15, 1858.

Ladies and Gentlemen:

It is now two years since a few zealous horticulturists met at Decatur to organize the State Horticultural Society. They were buoyant with hope as the wide field of operations which lay in its almost natural condition before them, gave promise that they would have ample verge for their zealous, benevolent efforts. The wide sweep of prairie, so tempting to the agriculturist, from its rich and diversified surface, was fast coming under the hand of culture, and new homes and new altars were being erected over its broad surface. The iron horse was moving in his ponderous majesty in various directions, awaking the long dormant echoes of the prairie, which had been silent since the red man met his brother red man

in battle array, and the war whoop was stilled in death. Around these thousands of new homes, the waving grain and the lowing herds formed the chief feature and became the almost objects of the care of their owners. The landscape was cut into cultivated fields or left to the herdsman. The few homes stood out in bold relief against the horizon, with no back ground of tree or shrub to break the sameness of the view—everywhere waved the luxuriant grass or golden grain; the lowing of herds or the shrill notes of the steam whistle was the music to which labor paid its court.

It was to fill up this picture—to add the beautiful to the useful—to make these new homes redolent of comfort—to clothe them with vines and embower them amid the leafy treasures of the sylvan wood; to fill the orchard with fruits and the garden with vegetables, that the rosy hues of health might glow on the cheek of youth and radiate the brow of labor. This was their task, and this the object of their convocation; to these purposes would they bend their energies, and to these give the work of their hands. They have now met again in council to sum up their progress and to lay out work for the future. Their numbers have been augmented and their prospects of success loom up brightly before them.

They have not been idle, but have laid the foundations of thousands of monuments—not of crumbling sandstone—not of marble, upon which the graver's chisel cuts the faint resemblance of fruit or flower, but the living, growing monuments, with their leafy treasures waving in the sunlight, through which the gentle zephyrs of summer will nestle and whisper of hope and pleasure; or the more boisterous winds of winter stop to hold converse. From these monuments shall come the robin's early carol, as the sun sends his first greeting to flush the dawn of day; his morning song shall wake the sleeper when the bud is first swelled by the vernal shower, and when earth's hibernation has yielded to the warm glow of the sun as he climbs the southern sky.

What noble incentives to urge on the horticulturist to fill up the vascular system of agriculture, to make all its ways pleasant and to smooth down its rough corners, exerting a powerful influence for good and noble ends. It has been said that horticulture is the hand-maid of agriculture, but it is, in fact, a sister art, standing high in the useful world, and also giving us rich lessons in the beautiful. Horticulture has high claims on every tiller of the soil, on every owner of a homestead, whether in country, city or village, whether of a thousand acres of swelling prairie, a thousand feet of city lot, a paved court or sunlit window.

How dreary and desolate the farmer's home, without the flowers, the fruits and the grateful shade, which can only fill up and beautify its surroundings. How bare his table when beef, pork and cereals make up its catalogue of edibles; and what a little assistance from the garden or orchard gives it zest and promotes a healthier action on the human system.

It is not my purpose to lecture you on the importance of this

part of your rural duties, and occupy your time in proving what you already know, but the calling of your attention to so valuable a fact, is but taking another look at a thing beautiful in itself, and is all the justification I shall urge in my defence.

There are several questions of paramount importance that should receive our attention at this time and among those pertaining to Pomology, there is none more deserving our attention than that of protecting prairie orchards.

It is contended by many that the prairie soil is not adapted to the growth of the apple, that most valuable of all the northern fruits, and that the timber land is the only proper place for the orchard. I have not been able to see the force and utility of this reasoning, no further than this, in the fact that the adjacent wood breaks off the severe winds and tempers it to the tender buds and blossoms in early spring; and here I think lies the great secret of apple culture—it is in this very protection. We cannot all have timber land and natural timber protection, and hence the question, can we grow apples on the prairie? assumes no small importance. To this I answer, that the prairie soil offers advantages, as a general thing, superior to the wood land, and in every respect equal thereto.

In the first place, the timber land offers no natural difference of soil from that of the prairie. Some of it is high and rolling like the high ridge of prairie, and both present an excess of clay, other portions present the deep, friable soil of the common prairie; the one is annually burned over, and the ashes are lixivated by the rains, while the fallen leaves and other debris of the woodland slowly decay on the ground. Both of these soils contain the elements of a rapid growth of timber, and generally at the expense of fruit. It is well known that the trees on the out edges of the groves make a slower growth than in the body of the timber; the harshness of the atmosphere appears to be modified, and we enter, as it were, a milder climate. Standing behind a single row of trees on the praire, one can easily appreciate the difference of temperature; the wind comes sifting through the branches and is divested of its rawness. What then would be the effect of a closely planted belt of trees six rods in width? Its effects must prove magical, not only upon the growth of the orchard, but in protecting the young germ from damage by storms of wind and rain when in infloresence; by protecting the young fruit from sudden changes which so often prove fatal to the crop; by preventing the half grown and matured fruit from being blown from the trees—thus making windfalls of what should mature for use. In fact, I look upon this matter of timber protection as the keystone, in the success of fruit culture in our prairie orchards.

What trees shall we plant? The cottonwood is the most rapid of growth and the easiest of propagation, and when orchards have been set some years will prove valuable for this purpose. As it grows readily from cuttings, all that is required is clean culture and the cuttings put out in April or May. The soft maple and

white ash of our groves and timber bottoms are valuable; they grow readily from seeds, are easily transplanted, and make valuable timber and firewood. The silver leaf maple and European larch are both rapid growers and invaluable for this purpose, Among evergreens the American arbor vitæ is probably the best. from its rapid and dense growth and cheapness of plants. These I would intersperse among the deciduous trees to give them a more cheerful winter look, but my main dependence would be on the ash, maple and larch. The Norway spruce, with its perfect symmetry of form and graceful foliage, waving and bending to the touch of the rude blast, presenting a protection as impenetrable as the most closely boarded palisade, is of the greatest value, not only to the eye that appreciates the beautiful, but holds no second place either on the lawn or in the planted screen. The family of pines, when in masses cannot fail to please the eye, but for screens and orchard protection is second to the arbor vitæ or Norway spruce. Our native red cedar, that so delights to fill up the bleak places along our river banks, is of great value for screens, as its hardiness is a matter beyond dispute, and its closeness of foliage enables it to shut out the winter blasts; this should place it high in your esteem. The maple and ash are grown in seed beds one year and then transplanted in rows like corn and cultivated until they shade the ground. A belt of these four to six rods wide would completely protect the orchard, and would more than pay all the expenses of culture for timber and fuel. In the New England states, the cutting away of the forests has so changed the climate that the fruits so abundant under their protection, have become more and more uncertain as the woodland recedes from them; and it is now proposed, and in fact, already found profitable to grow the larger fruits in tubs under glass, upon the plan adopted in England. I say profitable only in a limited sense, for the superiority of the fruit, its freedom from insects, make it command a larger price to be placed on the tables of the rich. But this glass house culture will never do for the masses, and if depended upon would sadly disappoint their expectations. Apples at six dollars a barrel and pears at fifteen would be beyond their reach.

We are now in the condition of the New England states, our timber protection is wanting, and until we make up the deficiency, we must be content with the present uncertainty of the crops, or build glass houses. I have always been an admirer of the beautiful prairie, and delight to see the gentle zephyrs kiss the waving blades that clothe its ample sweep. I almost worship the groves as sacred, that lie like islands upon its bosom of sea-like verdure. But when I see the hand of man planting the forest that will soon make stately lines or clumps of sylvan growth, there arises a sort of devotion—a looking up through nature to a higher power, who has given us such lessons and endowed man with the perceptions and power to modify the climate, and by art to change the normal condition of the material world. Do we find the native fruit upon

high swells of prairie; upon bleak, unprotected ridges of woodland; in the skirts of the groves beyond the protection of the undergrowth, or do we find the grape thrusting itself into open space beyond the leafy canopy of its protecting tree? Most assuredly not. But we find them in the river bottoms, under the umbrageous protection of giant oaks, elms, linn, maple and sycamore—in cozy dells, where the wind sscarcely wave their leaflets—on the edges of the groves, closely surrounded by a body guard of hazel, matted with shrubs and vines, secure from the intrusion of the blast.

Shall we be wise? Shall we look to the value of the artificial forests? Shall we choose the proper aspect and place for the orchard, and then follow the unerring rules adopted by the Great Giver, to insure a rich return for our labor? When we shall have done this, we shall have accomplished more than a supply of fruit with all its train of blessings; for these belts of timber will rob the atmosphere of its deadly malaria, and the roseate hues of health will not blanch beneath the kiss of the summer zephyrs.

You do not place your hot-beds exposed to the bleak winds of March, where its genial heat is robbed by the keen blast. You seek some warm, cozy corner, with a generous, open front to the sun, closely protected from all intruding wind. Why not give your orchard the same protecting care, especially when that care is more than repaid in other advantages. I need not repeat to you cases where incidental protection has shown the great value of the rule, for you will readily call to mind such isolated cases as will set you to consider the great value of protection.

Some one asks which side of the orchard most needs this proposed belt of artificial forest? I will reply that, in general terms, all sides need it; but, most of all, the south and west. An eastern aspect is most desirable, from the fact that the morning sun is less injurious to the tree, as it is soon bathed in a warm atmosphere, provided that the wind is not allowed to carry off the diurnal heat. Towards sunset the earth begins to cool, and it then becomes desirable that in winter the heat be withdrawn from the naked branches so that they may gradually cool off, and not receive that sudden check which a southern or western aspect would give them. The object of an eastern aspect, then, is to withdraw the sun from the naked branches an hour or two before it sets, and this end can be obtained by a belt of timber as well as by the interposition of an intervening ridge of land. The east side of the orchard is the least exposed to danger, from the fact that the temperature of the east wind is more uniform, and being generally the precursor of rain, is quite temperate, even in winter; but no sooner does it change to the west, than we experience a sudden change of temperature, and hence the necessity of doubly guarding the west and southwest avenues of the orchard.

I hold that it is not the extreme low temperature that so seriously affects our fruit, as in the sudden changes produced by our variable continental climate. To guard against this change, nature

has given us the means, and has set us examples in profusion how to use them.

VARIETIES.

We will now change the subject, and turn our attention to the value of varieties. And here our first inquiry leads us back to the last theme, and we are led to the inquiry, how many of the tender sorts would prove tender and indifferent bearers if protected as I have before intimated? I apprehend that many of our favorites would be called back to our grounds and be firmly restored to favor. In the winter of '55–6, when one wide sweep of destruction laid dead most of the orchard trees north of the Big Muddy, it so depressed the hopes of the orchardists that they have not regained sufficient confidence to replant, only on a limited scale. But over this wide sweep of desolation there remains many evidences of the passing by of the destroying angel. It is true that some varieties escaped with less protection than others, but with few exceptions, all suffered more or less. One of my neighbors had a fine orchard of the Milam, which stood on an eastern slope, and sheltered by a heavy forest on the east; nearly every tree was killed to the ground and none of them have borne since. In fact, the destruction was complete. In one of my orchards was three bearing trees of the Milam; two of these were protected on the west and south by a thicket of peach, and beyond that a grove of Locust. These two trees bore a fair crop of fruit the following season. The other tree was protected on the west, but not on the south, and was seriously injured. Out of over fifteen hundred orchard trees, containing over one hundred and fifty varieties, the same result was most marked and apparent. The Holland Pippin, Early Harvest, Red June, Greening, Twenty-ounce Pippin, Red Gilliflower, Milam, Sweet Bough, English Russett, and many others stood well under the lea of a locust grove and bore fair crops the next season, but where exposed, were more or less damaged, and failed to produce fruit, while most of them have since died. Keswick Codlin, Rawles Janet, Stannard Winter Russet, Ramsdell's Sweet, Tewksbury Blush, New York Vandevere, Winesap, Fameuse, Summer Rose, Cooper, and a few others stood well under the exposure, and produced a fair crop, but even these bore better when partially protected. Baldwin, Esopus Spitzenburg, Spicesweet, Fall Pippin, Rambo, Fallowater, were killed under every aspect. A neighbor, whose orchard was protected on all sides by natural and artificial groves, sold over a thousand bushels of fruit the following season, and the protection on the east side was by a single line of locusts planted a rod apart; the soil was prairie.

The Cherry has almost become a matter of history in prairie Pomology. It has not been able to stand the non-protection system, and like the iron interest, needs home protection, that it may flourish and take deep root in our—for it—almost too rich soil. The Early May and Early Richmond, out of a large list, are nearly the

only varieties left. Let us try them within our magic circle of artificial forests, and see if they will not be called back to life.

The queen of fruits, the Peach, has receded south on its way back to its own sunny home, and of late we have to look among the mountains and hills of lower Egypt to find this, one of the richest gifts of Pomona. Shall we not bring it back and plant it on our northern exposures and within the forest belt, that the sudden changes of our winter and the driving rains of spring shall not chill its buds or dash the ready pollen from the opening flowers.

THE PEAR.

The subject of Pears and Pear culture has occupied much time of our Pomological Solons, and volume has been piled upon volume until we are nearly lost in a fog of Pear literature, more overpowering than the smoke from a thousand gun battery, and still we are but upon the threshhold of the inquiry, so far as its culture on our prairies is concerned.

Thus far the subject has been divided and sub-divided; high heads, low heads, and in many cases, no heads at all, except a bare show of fruit spurs. Again, Dwarf and Standard have each had their advocates, and a warm debate has been, and is still carried on between the friends and advocates of either system. In addition to this, those parties have again been subdivided into advocates of certain stocks. The Quince, the Mountain Ash, the Native Thorn, the Apple, the Choke Pear, and our best Table Pear.

I shall not consider it my duty to take sides in this Pear war, nor would I advise our orchardists to do so, as our Eastern friends are entitled to this sort of exercise by pre-emptive right. They have marched and countermarched, not only under the walls of Bunker Hill, along the classic Connecticut, up the Hudson, over the Shoales of Onondaga, through the great valley of the Genessee, around the head of the lake where Buffalo holds the keys of Commerce, along the line of lakes to Cleveland, and thence to the Queen city of the West. The smoke of their guns has so befogged these battalions that it is impossible to get at the results, and further than this, that in the attempt of these valiant champions to supply the million with cheap Pears—aye, with luscious Pears, that should prove to them that the last best gift of Pomona was reserved for these latter days. The price has been reduced to six dollars a dozen, and in some cases, as low as fifteen dollars per barrel, at wholesale.

Until they have achieved better results, I fear the honest poor will never have the pleasure of tasting the melting richness of those special gifts of our goddess. But, allow me to say in this connection, that the Pear, whether Dwarf or Standard, should be planted within our belt of Sylvan beauty. Its early blossoms, so sensitive to vernal frost, needs that this protecting mantle be spread over them to guard them from the wayward atmosphere. Lovers of fine, melting Pears, may I ask you to plant this fruit, both in the orchard and on the deeply spaded lawn, both Standard and Dwarf?

See that they are not exposed to the rude blast, for remember they are not oaks nor willows that will bear harsh usage, but the delicate organism of this tree, particularly, requires that it receive your most constant care, and when thus treated, I have great confidence that in very many parts of our widely diversified State, this delicious fruit will be found entitled to our high consideration.

SHOW OF FRUITS.

In looking upon your tables, my eyes rest on fine specimens of your pomonal products—specimens of which you may well feel proud, not only as a proof of our fertil esoil, of our sunny skies, which must endow all with ample proof that we may proudly claim this land—this broad sweep of prairie—as the favorite seat of horticultural and pomonal progress.

But the growers of this fine fruit are here, or least we have evidence of the aspect, the protection, location, amount of sun and shade that had been used to produce such fine specimens of growth, and upon inquiry nearly all of it has been grown within and protected by belts or groves of forests. That fine lot from Adams county was grown under the protection of the pines that beautify and embellish the home of my friend Jones, while they were kissed by the summer sun, and their crude juices elaborated to gratify the palate, and their outer rinds pencilled up with colors beyond the painter's art. Those fine, orb-like apples, from the swelling slopes of pomonal Egypt, have been grown under the protecting eagis of the forest verdure, that waves its wand like sympathies over their pomonal wards.

UNDERDRAINING

Is undoubtedly a great aid in orchard culture, but the pomologist has but half performed his task when his grounds are underdrained and his trees planted; his next work is to plant that belt of sylvan beauty that is to act like a girdle of warmth in protecting his trees from sudden changes of temperature. The underdrains will perform that service to the soil which the belt of wood does to the atmosphere, correcting its excesses and promoting an equable condition of heat and moisture.

THE GARDEN.

The same general rules apply with the same force to the garden, and both orchard and garden should be deeply plowed, and well rotted manure mixed with the soil, except in the few cases where mulching is desirable, and even then I would prefer well rotted manure for the purpose. Deep and thorough culture, both in garden and orchard, is to my mind, what we want, while mulching is but a feeble substitute, and is only admissible with newly planted trees. When the shade of trees is sufficient to prevent the growth of weeds and grass, the falling leaves will supply the place of manure, and as the ground cannot be baked by the sun or beat down with heavy rains the stirring of the soil is of less value.

The small fruits, such as strawberries, gooseberries, currants, blackberries and raspberries, have not received the attention that their great value should have commanded. They belong to our more immediate home surroundings and should come under the more direct superintendence of our female friends. Not that we expect they would spade up or plow the ground, but that they shall have the general supervision of them, to say where, when, and how many shall be planted, and in the setting, pruning, tying up and picking, they may, with great profit to their health and pleasure to themselves, lend a helping hand. It is these small favors that give value to the rural meal, partaken of under the influence of healthy exercise, and it is these that give us a stronger love of home, because they add to our happiness, not only in their culture but in their use. They may well be called preserves, for they preserve and protect our appetites from seeking less congenial food, and they preserve our love of home—our love to those whose fair hands prepare them for the table and present them to minister to our health and gratification.

When Spring shall again swell the buds on yonder grove, let us see the husbands, wives, sons and daughters, enter in sylvan retreats and return laden with rich spoils of blackberries, raspberries and other native fruit, to be planted and cultivated beside others that must come from the nurseries. To those whose home is far out upon the prairie, a day spent in the quiet retreat of these wooded aisles, listening to the sweet songs of the feathered warblers, will implant a wish to entice them to your prairie home, where they will give you music, free as the zephyrs that kiss the waiving leaflets of your golden grain. Plant the leafy treasure about your garden, your house and your orchards and you shall not only have songs to cheer you at your toil, but you shall have busy helpers to protect you from the thousand insects that prey upon your field crops, your garden vegetables and your fruits. Would you be grateful for labors performed, for unrequited favors, freely lavished, plant trees, in whose branches your feathered friends will rear their young and from which they will send you delicious strains of music.

If you do not wish your grown up sons and daughters to stray off into far off lands, when the scramble for gold, for power or for place, stirs up all the worst passions of our nature—if you wish them to settle down in the midst of social privileges, surrounded by warm friends, make your home attractive and set them the example of rational and refined enjoyment, teach them the love of flowers, the appreciation of the beautiful in nature and art, draw them around the altar of home, surrounded by the living symbols of native beauty.

We have a country rich in its boundless wealth of products, smoothed out into vast fields by the plastic hand of the Great Giver, drained by the winding furrows first planned by the Almighty,

into which he ordered the waters to take their courses, and upon whose banks he planted the leafy treasures of his fostering care. The genius of man has plowed the bosom of our rivers with his fleets of commerce, it has laid the iron way over the teeming prairie and put us in near communion with the great mart of the world. Our State stands high among the corn exchanges where the toiling millions seek their food. They cast their eyes westward and exclaim: "Illinois! Illinois! What happiness her citizens must enjoy amid such lavish abundance of cereal wealth." But they do not know we are the slaves to commerce; that we worship sections and quarter sections; that we rear an idol of broad acres and grasp after a phantom that brings us disappointment; that we have looked beyond the sacred precincts of home for that enjoyment which is alone found within its borders. Too many of our homes stand out in bold relief, marking their outlines against the winter sky, and receiving the shock of chilling frosts sent from the vast storehouse of his Hyperborean majesty. Of what value this cereal wealth; this land-worship; this slavery to the potent dollar; this blanching of the cheek by honest toil; this neglect of home and its surroundings, that should bring us health and happiness; have we not changed that order which gives us eight hours for labor, eight hours for recreation and eight hours for sleep? Is it not rather our first duty to provide for the comfort and pleasure of our families, that we may grow rich in the love of country,—in the love of home, around which should cluster our dearest sympathies?

The various insects, so contemptible in themselves, yet when arrayed as they sometimes are, in countless numbers, make no insignificant enemy, and at which we are sometimes almost appalled, should receive more of our attention. The study of Entomology should be encouraged so as to enable us to know our enemies from our friends, as it is well known that among insect life, there are many that aid us in keeping down those that are bent on mischief. We should thus be enabled to draw a line between them so as always to distinguish the bad from the good.

The alkalies and acids are both injurious to insect life, and both make valuable fertilizers. Is it not, therefore, possible that with these acids we can make successful war on these destructive hordes, and at the same time increase the growth of our plants.

The Chinch Bug, the Hessian Fly, the Bark Louse, the Wolly Aphis, the Borer, and an almost endless variety of depredators, prey upon our trees and our field crops; while in early spring others as ruinous commence to eat out the germ of the newly planted seeds, or destroy the first shoots of the plants. We must look these things in the face and learn to check their ravages; it will not do to let them come when they will, eat what they choose and leave at their good pleasure. The Curculio which has ravaged our plums, our nectarines, and threatens with destruction our entire peach crop, has scarcely been met upon the threshold of his victories. A few coops of chickens have been put in array against

him and he has been jarred from his perch; but he swarms in increased numbers, and bids the laggards in practical Entomology defiance. Was he followed up with dose after dose of acids and alkalies, shook down into Dr. Hull's inverted wheel-barrow umbrella, while the morning sun is drinking up the dews, think you, would he not succumb to such energetic practice?

The vegetable garden! How we rejoice when we enter its hallowed bounds of health-giving food! Huge Beets, Carrots, Turnips, Onions, Cabbages, etc., rich with the ripened hues of autumn, ready to be garnered into the cellar to minister to our wants while the earth performs her hibernation and no longer yields her bounties. But when overrun with weeds, or the autumn grasses, among which we find a few starved plants, faint evidence that the spring visited the spot, and that the guardian spirit which rules the farmer has been off duty—playing the laggard—and by sad, unwarranted neglect, made the most valuable part of the farm a barren waste.

Allow us for a moment to consider the flower garden, that bright gem that, like a guardian angel, binds the household by its secret bonds of beauty. Are we not all lovers of the beautiful? We may worship at the shrine of wealth, we may pay tribute to fame, but we bow down in humble adoration to beauty. What is a farm house without flowers? Of what value is its surroundings, if flowers—vernal flowers, summer flowers and autumn flowers form not a part of the fitting? It is like the blasted pine on the mountain's side, alone in its desolation, and without the hope of again having its head clothed in verdure, an emblem of awe, of blasted hopes or the want of energy. Plant flowers—they will repay your care in love, in an enlarged idea of the Great Giver, and when you bend from toil they will breathe sweet odors that shall repay you for all their care.

Our good friends, the birds, should partake of our bounty, and be protected in their rights. They destroy hundreds of insects, of larva and of catterpillars daily, and were it not for them the insect tribes would rob our orchards of their foliage, our shade trees of their beauty, and our fields of a large part of their products. It is true that they sometimes take a little toll, but it is when they have exhausted our insect enemies, or that we fail to plow up the grubs upon which they should make their daily meals. Did you ever know the Black-bird to pull up your corn after the plow commenced turning up the fresh soil, whence its keen eye would seek out the grubs, its more favorite food? See with what confidence they follow after you in early spring, as you turn up the soil for your summer crops of corn and oats. Would it not be better to feed them than to hunt them down—to plant groves for their protection than to drive them away? I know your answer will be in the affirmative. What music there is in the Robin's early carol, as the hues of morning first paint their faint outlines on the gates of day, and before the sun has shed his glories over the earth just arousing from her winter sleep! To you whose homes are embowered in

trees and climbing vines, and who are daily greeted with bird music, richer than that which flows from reed or tortured string, you can fully appreciate the value of their labors in your behalf. But to those whose morning music is only the shrill clarion notes of the rough throated Shanghai—to them we would appeal, to them we would urge the rights and privileges of our feathered friends.

In conclusion, I would ask, do we need more unanswerable arguments to convince us that though nature has been so lavish in soil and climate throughout the length and breadth of our noble State, that there is left for us a duty—call it an art, if you please—to finish as may be required for our use and comfort, the great vascular system of nature that is mapped out in such magnificent beauty before us. It is most evidently our duty to complete the picture. The Great Giver has left this to the proud and far-seeing genius of man, and why should he not bring his energies to the task and thus show his appreciation and love of that power which has placed him but a little lower than the angels.

PLOWING AND DRAINAGE.

ADDRESS, BY PROF. J. B. TURNER,

BEFORE THE STATE HORTICULTURAL SOCIETY, AT BLOOMINGTON, DECEMBER 16, 1858.

In discussing the subject of plowing and draning there are of course three items to be considered—

1. The power required and used.
2. The implements required and used.
3. The work done and its effects.

I. THE POWER.

Philosophy is more and more clearly revealing to us that there really is, in nature, and can be, but one and the same original fountain and source of all power, all motion, all force, and all growth: mineral, vegetable and animal, in the material world, just as there is but one great original source of power in the spiritual world, namely, the spirit of God, and what the spirit of God is in the world of mind, this same great all-pervading and all-controlling force of nature which continually flows from the bosom of the sun, is to the world of matter.

This mysterious "*vis natura*" or "force of nature," as the Latins called it, call it a force, a power, an ether, an aura, or what you will, if it be, as many now suppose, an unity, or even if manifold in its original form, is still the sole moving and producing power of the natural world, though infinitely various in its phenomena and op-

erations, as it strikes our senses and reveals itself to us through the infinite effects which it produces; and to it we have given various names conforming to those several effects on sense.

As it glances or undulates from the bosom of the sun through the unimpeded and infinite void above and around us, we call it *light;* as it strikes against the atmosphere and dashes and regurgitates against and through the solid matter of our globe, we call it, from its new effects, *heat;* as it leaps in streams and sheets of living fire from cloud to cloud, as it runs along our metalic rods and conductors, as it bears our messages and our thoughts over continental wastes and through ocean depths, as it dances around and within every flying cloud and every solid atom of our very bones, we call it *electricity;* as it grasps suns, systems, worlds and atoms with equal ease, and whirls them along in their endless dance around their axes and their centres, binds them in solid ponderous worlds, spheres and masses, or explodes them into invisible gases, we call it *attraction, gravitation, cohesion, repulsion, magnetism, polarity,* &c., &c.; as it gathers inert matter and elaborates it into the myriad forms of vegetable and animal life, flying, swimming, glancing and leaping with joy and gladness through ocean, air and earth, we call it the phenomena of *life and growth, animal life, vegetable life,* &c., &c. But everywhere, at all times and in all places, in all motions, arts, interests, and processes, artificial and natural, it is the one and sole source of action, motion and power, at once the ever-present right hand and the natural symbol and image of the great and invisible God.

But what has all this to do with plowing and draining? Much every way. First, because it is really by the power alone that we drive our plows whether we use men, animals, water, wind, or steam, as the means or agents through which this force is appropriated. And second, because it is this same force alone, that makes it of any use to plow, for on its laws all growth and all reproduction, as well as all motion depends.

The man who plows and plants, therefore, according to the laws of this all-pervading, all-controlling force, plows and plants with the laws of nature, (yea, the entire whole of nature, from the sun downwards), and the laws of God favoring and co-operating with him, and he must succeed. But the man who plows or plants contrary to the laws of this force, plows and plants against nature, and against God too, and if nature still exists, and God still lives, he must fail, and fail too in precise proportion to his error, be it more or less. True, it would be bad enough to undertake to fight either God or nature alone, with a plow-share, but to attack them both at one and the same time is surely a most hopeless task. No steam plow even can come off victorious in such a contest, and yet we have had thousands of mules, two before the plow and one behind it, toiling at such hopeless work for ages. But we have heard no shouts of triumph going up as yet.

I make these brief prefatory remarks, with no design of scientific

disquisition, and no pretence to scientific accuracy, which would require volumes rather than an essay. But mainly to impress more fully upon the minds of all, the vast importance of the knowledge of *material and natural laws*, in all human interests and enterprises; and the full application of the great law of forces to the simple art of plowing will be found at last one of the most abstruse and difficult, as well as the most elevating and beneficent of all human sciences and all arts. The proper construction and use of the plow involves an infinitely wider range of knowledge and of cost, than that of the steamship or the man of war, or of the specific factory or machine shop.

In regard to the power to be used or rather the agents to be employed in connecting the plow with this great *fountain of all motion and all power*, it would seem more naturally to be either animal, steam or atmospheric, in the present state of our arts, though the galvanic or electric forms or some other agency may be tried in future, and found to supersede all others.

The only question here is which of these several agencies will most economically attach the plow to this great "*vis natura*" of all power, or in better words apply this all-moving force to the plow.

In all cases the economy of the power or agent will of course depend upon its relative cost and the cost of its hourly consumption; and its consumption may be measured with sufficient accuracy by estimating the value or cost of the oxygen consumed in the process, as in all these cases alike *heat* or *consumed oxygen* is the real moving power. For example, we put coal and wood under our steam boilers, and with this as a fuel a certain given amount of oxygen is consumed and an equivalent amount of *heat* or of this "*universal moving power*" is generated and brought into service. Just so we put, instead of wood and coal, hay, oats, corn, &c., into the *boilers* or stomachs of our horses and mules, and in there, too, by a process of consumption precisely analagous, a certain amount of oxygen is consumed and an equivalent amount of heat, or of this same all-moving power, is generated, and the muscular force of the animal, as well as the force of the engine, is in precise proportion to the amount of this heat generated. True, we call it in one case heat from fire, and in the other case animal heat, but it is all the same thing in fact: simple heat—the probable moving power in some of its forms and influences—not simply of boats, machines andplows, but of clouds and storms, rivers and cataracts, oceans and worlds, suns and atoms. So if there is a dignity in world-making there is a kindred dignity in world-plowing, too, regarding merely its alliance with this great force of forces.

Now it has, to my mind, seemed for a long time self-evident that on these smooth prairies, we should at last find means to evolve a given amount of this *heat* or moving power out of the coal beds with which a wise and benign Providence has everywhere underlaid our farms, cheaper than we can possibly get it out of our crops of

hay, corn and grain. I have for years considered this only a question of time; and to hasten and shorten the time, if possible, I seconded Mr. Murray's proposition by subscribing $500 towards a fund of $50,000 some years ago, though I could but ill afford the outlay.

But at the trial of plows at Decatur, I was indeed rejoiced to find that John Fawkes had alone practically solved this greatest of all agricultural problems by constructing an engine, at a cost of not more than $2,500, and with a consumption of one bushel of coal and one and a half barrels of water per hour, which is capable of doing the entire work on a field of wheat, (on tolerable ground) plowing, sowing, rolling, cutting, stacking and threshing it at the rate of one acre per hour for the entire process.

In addition to this, it will do all other kinds of plowing and seeding, raking and loading, cutting and shocking corn, cutting stalks, hay and straw for fodder, grinding grain and apples, &c., sawing all kinds of wood and lumber, making ridges for fences and roads, dragging the mole drainer all over our lands and running our title deeds down from three inches to three feet depth per acre; and when it has done its day's work, it will trot home or into town, over any good, ordinary road, with ten tons of grain, goods or lumber on its back.

Here is not only a new power for the plow, or more strictly, a new application of the old and only power, the power of *heat* so called, but it is a new cycle—a new era in the history of agriculture—an improvement that will more than double the intrinsic value of every acre of prairie land on which it can be successfully run and worked. And I repeat what I have once before said, on another occasion, that if the John Faust of olden time deserves the thanks of the race for giving to the million printed books to read, the John Fawkes of our time will in future be deemed scarcely less deserving for thus speeding the plow and giving the same million bread to eat, and, therefore, leisure to read the books thus put into their hands.

But some have feared that that new machine would prove only another monopoly for the rich, and throw the poor or the moderate farmer under still greater disadvantages than before. But this cannot be; for a machine that can be made for $2,500 can be bought by any one or two young men of good character, without capital, and run from farm to farm to do job work, at low prices, as our threshing machines now do, and though thus cheapening bread or, more properly, *because* thus cheapening bread, for that very reason benefiting the whole class of the poor far more than it will the rich. In short I have said that this invention marked a *cycle*, a new *age* in the history of man, mainly because it brings the full blessing of the power of steam down not only to every field and farm, but down to every man's door, thus finishing, completing and crowning this great boon of God to man with its final use and its crowning glory.

And, I believe that the men are now born, yea, and here present, who will live to see not only all kinds of plowing, sowing, planting, ditching, dyking, shoveling and carting; boring, fencing and well digging; reaping, corn cutting and shocking; potato and root digging; stacking, loading or pitching and unloading; sawing, threshing and cutting and grinding fodder, hedge trimming, &c., &c., done by steam, and done in a hurry and to profit, but we shall see all sorts of vehicles, from the single sedan of the physician or the lone rider to the twenty and fifty horse power team, laden with products and goods, running all over our level prairies on any tolerable road, driven either by steam or atmospheric power. The latter, probably, for all drafts under a five horse power, and the former for the greater powers, at least for the present.

It may not be known to all that every needful item of machinery for all these varied uses has been already invented and put into actual operation, so that for each process the work is already done, with the single exception of applying the power, which Fawkes' new engine renders so simple and easy, that the final grand result, the millenium of farmers, cannot long be delayed. And this will tend more efficiently and mightily than millions of sermons repeated through millions of Sabbaths, without any such great providential aid, to usher in the still higher millenium of Christ and of God. For it is God's own right hand of power, supplying his children with natural bread, preparatory to the final gift of that spiritual bread that comes down from heaven, the one proceeding by *natural* the other by *spiritual* law—the one indispensable to the life that now is, the other to that which is to come, but both equally from *God*—giver, benefactor and father of all.

From these general hints my ideas of the *power* of the plow and and the drain can be gathered without more words. I pass, therefore, to the second point.

II.—THE IMPLEMENTS REQUIRED AND USED.

Time forbids me to speak of all the various modes of working the soil which have been used in this and other countries, such as spading, forking, harrowing, clod breaking, scarifying, &c., &c., by hand or by machines; but I must confine myself simply tothe plow, and notice some of its defects as now used.

The great improvement in our plows over and above the common plows of the world, and especially the great advance made by our ingenious mechanics upon the old Asiatic or Mexican plow or "tree-fork," is a matter of gratitude and admiration to civilized man. But it has been wholly in one direction, and to one single end: namely, the amount of soil moved and ease of draft. The whole problem has been, with the least amount of force to simply invert the greatest possible amount of soil. But any one who has even a slight acquaintance with this great law of force of which I have spoken, as it exhibits itself in the phenomena of vegetable growth, must at once see that this is only one part, and a small

part too, of the great whole of plowing, or of ameliorating a soil and preparing it for a crop: for *disintegration* and draining, not simply inversion, is what our soil really needs to make it in the highest degree productive. But these keen, bright steel plows simply invert the furrow, leaving great masses of the soil, especially on the surface, in great clods or lumps, to lie and dry and harden in the sun, as totally useless and unfit for any purpose of vegetable nutrition as so many loads of stones or brickbats. Nay, they are not as good as so many brickbats, for they have not the same power to extract moisture and gasses from the air; they are, in such a state, simply the most useless of all trash that could be spread over the surface of the earth, not excepting clubs and stones of the same size. It is true, these clods will at last melt down in the rains and become manageable and useful to the crop. But, meantime, all the nutritious matter that was in them of a gaseous origin has escaped into the air, while many other ill effects have happened to the soil, to be noted hereafter. It is true also, that by going over again with a roller, these clods may be pulverized and reduced to use; but this requires so much extra labor and travel with team and hands that it is certainly seldom done. This is certainly one great defect in our present plow that needs a remedy, and must have one.

Clods, great and small, on the suface prevent the absorption of heat, that great moving force of all growth in the early part of the season, when it is so much needed; and so do all open spaces if confined, or free air under the surface.

When it rains these clods above and the open spaces below retain a great quantity of surplus water within them, and around them, not needed by the soil, especially in the spring, which water remains, to soak slowly away, or to be carried off by evaporation from the heat of the sun, in both cases alike abstracting a vast amount of heat from the soil, as well as stifling or drowning out the growth of the young rootlets exposed to its presence, for most roots of our cultivated plants will not grow at all when so surrounded by water as to exclude the vital air. They are thus forced to stand for days and weeks in some of their parts, without making any progress or growth at all, from this excess of water held in these open spaces, and from the want of the heat which the same water carries away with it, and of the air which it excludes. In order to realize the vast amount of heat carried off from one hundred acres of land, by the evaporation of these *thousands of hogsheads* of surplus water, held in all these little crevices, between the clods above and below the ground, let us only consider the amount of fuel required to evaporate one single barrel of water on a stove, and also remember that it takes precisely the same amount of heat to do it in the field, for each barrel of the thousand barrels or hogsheads there evaporated by the sun. On the other hand, we should consider that all such open spaces in the soil, and rough surfaces, when the ground is dry, diminish the amount of heat that is absorbed

from the sun into the earth, while they admit the air, and prevent absorption of moisture from beneath, and utterly exclude the growth of all roots in or near their spaces, for no roots whatever of common plants, will grow in our soil in or near an open space, the excess of water at one time, and the excess of air at others, inevitably kills it out, or repels it from all attempts to cross or enter near to such spaces. Hence, all the soil near such spaces lies idle and useless so long as they exist, aside from these other injurious effects. In further illustration of our idea, it might be said that in the best possible prepared soil, we want one atom of soil, and one atom of water, and one atom of air, with the requisite heat, and no proper growth can take place without either of these; therefore, masses or spaces of either one of these, that exclude the other, are not productive, but only useless, for neither *soil alone*, or *water alone*, or *air alone*, can do anything towards making a crop, or feeding the rootlets of our plants under the earth, but soil, air and water, all combined and mixed, comminuted in due proportions, and all hard lumps or empty spaces that exclude either one or the other, of course are so far forth sterile and usless, and in other respects, as shown above, highly injurious to all productions. Thus much must suffice to indicate the relations of heat and moisture to the art of plowing, and so far as various gases or electric influences may affect growth, they follow the same natural law, and need no further consideration.

Another defect is the enormous waste of power, whether of animal or steam power, required to drag a heavy plow through the earth, with all its weight of soil upon it, and its friction unrelieved on all sides by any revolving motion or power. That a man may know how great this really is, he needs only to shovel into a box as much weight of dirt as the plow actually carries and lean himself as much upon the plow handles as he usually does, and let a horse drag it all day over soft ground without plowing at all, and see how he feels when night comes. He will then realize how much the plow needs relief in this line; or if he does not his horse will. Now, until of late, there never has been any attempt even to relieve the plow in these regards; for our gang plows as now constructed, instead of taking off the friction on the bottom and land-side of the plow, though mounted on wheels, for most part make it actually greater, as any one can see by a trial with a team or dynamometer; so that all we have as yet done with the plow, after all, is to try to improve upon the simple idea of the old tree-fork, without even looking for any new principle or new form, either as regards the perfection or ease of the work, or a better adaptation to our very unique soil and climate. To this great fact there has been, to my knowledge, but one or two single exceptions in the plow line, though some number of inventions in the shape of rotary-diggers.

Mr. Jesse Frye, of Springfield, Illinois, has made great and commendable efforts in the right direction, though, as he writes

me, from want of means, and failure in mechanical execution, he has not as yet succeeded. Mr. Edward Dawson, an ingenious plow maker and mechanic in our town, is also now endeavoring to construct (under my own particular direction) a machine that will wholly relieve the bottom and land-side friction of the plow, and plow, sow and roll, in the best manner, four acres per day with the same team that would ordinarily be required for simple plowing, while this plow at all times and in all places keeps itself perfectly clear of weeds and trash, and when desired secures drainage at the same time it plows. Whether he will succeed or not, I cannot now certainly say, but I have a full belief that he will, and whether he does or not, I am sure that the thing is scientifically and truly practicable, and will soon be done by some one, even though a score should fail at it. Some say that this, when done, will help the small farmer more, that is, *immediately*, than the steam plow. How this may be I cannot say. But I do say that we have, with all our great advances, but just begun to improve the plow, and have not yet hit upon the true philosophical, ultimate principle of either plowing, or planting, or sowing, except in some rare instances, and in this very State, more than twice the time and labor is expended in plowing and sowing, to say the least, that need be, while the work is not done near as well as if our plows were of a proper construction, even if drawn by oxen and horses.

But these hints must suffice for the form of the plow as required, and as actually used, while we pass on to consider

III.—THE WORK DONE AND ITS EFFECTS.

It is a grand mistake to suppose that either the plow itself, or the spade, or any other tool, does the soil any good. So far as their own action *alone* is concerned, they only injure it. The only thing that really benefits, and fertilizes the soil, in any case, is the heat, air, gases, and moisture of the summer, and the frosts and snows of winter. All the plow, or any other tool can do, is to put the soil into the most favorable condition to receive this benefit.

What is this best condition of the soil? In general it is that condition which allows it to *absorb the greatest possible amount of heat and moisture, with the least possible amount of surplus water*, and loose free air, and, in general, it may also be said that most of our Western soils are in their best condition for this purpose, when they are most nearly like a smooth, level, deep bed, of very fine sand, smooth and compact as possible on its outer surface, and perfectly and uniformly pulverized, and disintegrated in all its parts below the surface, having no rough surfaces, and no hard lumps, or interstices, or open spaces, filled with water or empty air. The true idea is that while the soil should have access to moisture by its natural attraction of water, and also access to the air, *free water* and *free air*, that is, water and air lying in holes or in loose and free quantities, unmixed and unrestrained by the continuous and

uniform presence of the soil, is only a great damage to it in several ways.

The effect of winter frosts and snows I apprehend to be mainly this: they accomplish in fact what the plow alone, without the roller or clod breaker, fails to achieve: namely, they break down and disintegrate the clods above and below ground, and fill up all open spaces more thoroughly, so that when spring comes the ground is really well and thoroughly pulverized and also properly compacted and prepared to throw off all surplus water and retain all possible heat, which simply inverting the soil with the plow, in long strips or furrows twelve or sixteen inches wide without any roller or other instrument following it, most obviously could not do for a soil like ours.

This brief glance at obvious principles shows us in general what we should aim to secure by all modes of stirring the soil, and what to avoid, and wherein our present modes are and must be defective. It also intimates to us most clearly, what improvements we need in our plows in order to secure a proper perfection of the work. It will also serve to explain many well known facts: for example, why deep plowed land is better than shallow plowed; why in so many soils fall plowing is better than spring plowing; why both weeds and crops will spring up and grow in a cold spring so much better after a light roller than without one; (there is more heat and less surplus water there;) why a bull-tongue or shovel plow put to the same depth, will raise better corn than a mouldboard plow: for though harder to draw, or rather, *because* harder to draw, it more thoroughly beats in pieces and pulverizes the soil, and leaves fewer clods and less open spaces behind it, &c., &c.

But some say they do not like a roller because it makes the weeds grow, not thinking that the same causes that make weeds grow best, when undisturbed, inevitably makes the crops also grow best. And if it be desirable to avoid the growing both crops and weeds without labor, the best way would be to plant the seeds on the top of the barn or in the street, and secure the desired result at once without further trouble. But there are some at least, who will think it best to put their ground in the best possible condition for the growth of both crops *and* weeds, and take care in due time to kill out the weeds by the same process that cultivates the crop; and I hope these are a majority.

These principles also show us why the ground that is underdrained, even if very dry and rolling land, like the hill on which I live, to the depth of two or three feet, will be some two weeks earlier in its crop in the spring; will stand both wet and drouth better, and will produce from one-quarter to one-half more of almost any crop, and more than twice as much of some things, as the same land would if not underdrained. For in a soil like ours, underdraining is, in all its ultimate practical effects, only a short-hand mode of plowing three feet instead of three inches deep. All the surplus

water that falls upon the drained land percolates through the soil and finds its way to these covered drains, and thence runs freely off, and thus saves to the soil the vast amount of heat that would be required for its slow evaporation from the surface, and the damage it does by standing in open spaces around the roots of the crops. In a short time also, this percolation, or leaching of the water at all points through the subsoil, wears innumerable little channels, through *all* of which the water and air pass readily, but without being at any point confined in stagnant masses among open spaces between heavy lumps or clods; and the whole subsoil in time becomes loose and porous like a coral reef, admitting at all times enough of water and air from above, and never retaining too much of either, while in a dry time, the same condition is the most favorable possible for the absorption of moisture by attraction from below. In a word, we dig the drains at proper distances, say from twenty to thirty feet, and then the water itself plows and disintegrates the ground for us, say some three feet deep, more perfectly than we could do it with simple steel plows as now constructed and used, even if we could run them to that depth. Hence I said that underdraining is only a short hand method of deep plowing, and depends throughout on precisely the same ultimate philosophical principles as any other kind of plowing, especially fall-plowing. For in fall-plowing we run the share and mould of the plow under the soil and invert it, and thus make a shallow trench, and also partially disintegrate the soil by the act. The rains and frosts of winter complete this disintegration, and compact for us the rough surfaces and open spaces; and when the soil by nature is not inclined to run together and compact too speedily, it is found in spring in the best condition for a crop; or if too hard it will crumble finely and properly before the plow in the spring without the use of the roller, which it would not have done if not plowed in the fall, if at all inclined to be adhesive. So in underdraining we make *wider* and *deeper* trenches, and the water and the frosts do the rest of the work for us—all on the same identical principle. And if to plow six inches deep is better than one inch, to practically plow three feet deep is better of course than six inches; and there is no more mystery in the one than in the other. While in underdrained ground all the soil is properly compacted as well as properly drained and ventilated, in the very nature of the case, which, as has been shown, by ordinary plowing as it is now done, is not accomplished even for a few inches. But as people generally imagine that whopping ground over, bottom up, with great clods and small ones all over the surface and through the mass, left to dry and harden in the sun and catch all the loose water that falls, and then absorb and carry off the heat of the field through the first two months of the year, without any use of the roller or harrow: I say, as they imagine *this* very perfect plowing, if it is only deep and performed at great expense of power, so also they imagine that there cannot be the least use in draining land with

these underground drains, if it is high and rolling and throws its surface water readily off. It is true, on such land draining is not indispensable, as it is in a marsh or swamp; but I think any one can see that any land whatever having a compact subsoil in this state, which would be benefited by thorough plowing two feet deep, would be equally benefited by draining three feet deep, and for precisely the same cause.

It remains only to say a word about the mode of this underdraining or short-hand plowing, and on this point I have no doubt that the mole plow drawn by oxen is the best thing now on all adhesive soils, where the grade is not too steep, but the great "*ne plus ultra*" here also will be this same mole-plow, trooping after a steam engine of some fifty horse power, and ditching from ten to twenty miles of our prairie soil in a single day, or a whole large farm in a single week, thus nearly doubling all our products at a comparatively small expense. Don't smile, now, gentlemen, at this suggestion, for if the talking wire that now sleeps in the depth of the ocean does not rebuke your incredulity, Fawkes' new steam engine soon will. Or even if his should fail, some other man's will come up, for coal and wood are and must be cheaper generators of force or heat, than hay and oats. But remember, we may resort to the spade, and give our multitude of Irish friends needful and profitable work, and fill in narrow ditches with rails, brush or slabs, or sawed boards, or brick bats, or stones, or tiles, or water cement, so laid in all cases as to furnish a free passage for the water to some near outlet. But in *no case must there ever be any depressions* in the drain, for they will surely fill with mud and stop the drain and make it perfectly useless. Minute instruction for laying drains of all sorts may be found in our various agricultural works, except the cement drain, which, so far as I know, is an invention of my own and answers well, and is the cheapest of all drains for tolerably dry land. I use good water cement, one pint *well mixed with* coarse *sharp* sand and gravel seven parts. I lay the cement over a rod from four to eight feet long, and from one inch to one and a half inches in diameter, turned of hard wood, perfectly smooth and round; perhaps, turned steel would be better. This rod should be washed clean each time it is inserted, and should have a spur at right angles with it on the nearest end to the workman, with which to give it a roll before it is withdrawn from the cement. Lay the rod in the bottom of the ditch on the ground, lay over it, with plasterers' trowels, prepared cement, from one-half to one inch thick; throw some fine dry dirt on the cement, then throw on dirt to one foot depth and tread it down hard; give then the rod a roll back and forth till loose, then carefully withdraw it from the cement, lay it down again and proceed as before, taking care of course not to tread the dirt beyond the reach of the rod and over the soft unformed and unfilled drain made by the former insertion of the rod, and thus crush it in. The smaller the rod, of course the more easily the soft cement arch will support

itself. I have never used one more than an inch and half in diameter. But an inch orifice even will pour a vast amount of water out of a field in twenty-four hours, which would otherwise be left to evaporate or slowly leak away and carry off the heat of the sun for days as it went, and do no extra work for you at this short-hand plowing, as it is sure to do where drains are made.

I have thus, gentlemen, complied with the request of the officers of your Society, in giving you a bare outline of my views of plowing and draining. Of course, a complete discussion of so great a subject, involving so many of the most abstruse laws of science and mechanics, holding near relations, as you see, not only to all that grows and all that lives, but also in the propelling power to all that moves in our world and in all worlds, could not be expected in a single lecture. I trust I may have said enough to indicate to intelligent minds the true philosophy of the whole subject as far as I understand it, and also to show what improvements we still need and may be permitted now speedily to hope for, both in the process and the implements, in the power and in the workshop of this great primeval art of all arts.

If I have made myself understood, the utility of deep plowing equally accompanied with proper rolling and compacting, smoothing and pulverizing the soil, and of underdraining, will be apparent to all; and the necessity of some instrument on our smooth prairies that will effect these needful ends, at far less expense of horse power, than the ordinary process with a plow dragged on the ground and a roller after it, or more usually not at all, is, I think, equally apparent, and soon from some quarter to be realized, however many may fail in the attempt.

Tendering you, gentlemen, my thanks for your patient attention, I now submit the subject to the remarks of other gentlemen from whom I should be most happy to hear.

NURSERIES OF ILLINOIS.

LISBON, KENDALL COUNTY, ILL.,
February 22d, 1859.

MR. S. FRANCIS,
Cor. Sec. Illinois State Agricultural Society.

DEAR SIR: Agreeable to a resolution adopted at a recent meeting of the Illinois State Horticultural Society, I have collected and herewith transmit to you, a list of the nurseries of this State, with their productions, as far as I have been able within the short space of time allowed me. I am aware that this list is incomplete. Many to whom I addressed circulars have not yet returned statements to me; and there are doubtless many nurseries in the State of which I have not been able to gain a knowledge. But you will see that this list as given is large and apparently nearly adequate to supply the immediate wants of the State. Estimating that only three-fourths of the nursery trees have been reported, and we then have two million four hundred and twelve thousand apple trees ready for orchard planting, and six million six hundred and eighteen thousand of smaller sizes. Allowing one-fourth of these to fail, and we still have sufficient trees to plant, at thirty feet apart, one hundred and eighty-eight thousand one hundred and twenty-five acres of orchards. Our nurserymen are devoting increasing attention to the cultivation of *evergreens*. Probably five times as many seeds, and small evergreen plants (from the forests and imported from Europe) will be planted the coming spring as in any former season, so that in a few years, these beautiful trees, so desirable for adorning our homes and protecting our orchards and stock, will be sold much below the present rates. There can be but little doubt that when evergreen belts surround our orchards they will exert a mollifying influence upon the atmosphere and

thus secure an abundance of fruit. There are, within my knowledge, already in our nurseries a sufficient number of evergreen plants to form six hundred miles of belt sufficiently dense to resist perfectly the sweeping prairie winds. But this is not a tithe of what is needed, and, I trust, will soon be demanded: for if our farmers turn their attention to this matter as its importance demands, Illinois will yet become, in respect to its *beauty*, as it *now is in the productiveness of its soil, the Garden of the West.*

I am, with much respect,
Truly yours,

O. B. GALUSHA,
Cor. Sec. Ill. State Horticultural Society.

P. O. Address of Proprietors of Nurseries.	When established.....	No. acres permanently devoted to nursery....	No. of acres covered in spring of 1859.....	No. apple trees of suitable size for planting in orchards.....	Do. smaller sizes.....	No. pear trees.....
Allen, J. C., Lena, Stephenson county.....	1854	30	25	25,000	50,000	4,000
Aldrich, Verry, Arispe, Bureau.....	1853	17	11	30,000	80,000	1,000
Bryant, A., & Son, Princeton, Bureau.....	1847	30	24	30,000	100,000	1,000
Rubach, John G., Princeton, Bureau.....	1855	10	15	40,000	45,000	200
Bliss, H. N., Providence, "	1853	.....	30	40,000	40,000	50
Coe, A. S., Port Byron, Rock Island.....	1850	5	12	50,000	25,000	300
Capps, Jabez, Mount Pulaski, Logan.....	.....	.....	.....	3,000	.....	.....
Culver, Alva, Plainfield, Will..	1852	7	7	20,000	30,000	.....
Clark, Dr. R. B., Morris, Grundy.....	.. ...	.....	10	14,000	.....	.....
Dunlap, M. L., West Urbana.....	1857	.....	30	20,000	200,000	1,000
Douglas, Robert, Waukegan.....	.....	.....	.....	.....	.....	.....
Doyle, Michael, Springfield.....	1854	10	15	12,000	10,000	100
Ellsworth, Lewis & Co., Naperville.....	1849	25	110	30,000	500,000	6,000
Edwards, Samuel, Lamoille, Bureau.....	1846	.....	32	35,000	45,000	200
Essex, Isaac B., Drury, Rock Island.....	1847	8	8	50,000	20,000	1,000
Garner, A. I., West Point, Stephenson.....	1854	40	16	25,000	50,000	4,000
Galusha, O. B., Lisbon, Kendal..... and Galusha, Matteson & Son, Sandwich, De Kalb..	1852	48	28	28,000	205,000	300

WITH THEIR PRODUCTIONS, Etc.

No. peach trees.....	No. plum and cherry...	No. grape vines for out-door culture.....	Estimated No. fruiting shrubs.....	No. evergreen trees....	No. deciduous trees for ornament.....	No. varieties trees in quantities for screens.	No. varieties hardy shurbs and plants...	No. varieties green-house plants.....	No. varieties plants of culinary vegetables...	Remarks.
.....	20,000	500	3,000	7,000	1,000	4	50	150	5	.....
1,000	3,000	2,500	3,000	4,500	300	.....	90	.....	3	.....
1,000	1,200	3,000	10,000	16,000	10,000	6	300	.....	.....	An extensive assortment of nursery stock especially of evergreens and apples.
300	600	2,000	1,500	53,000	.....	5	.....	.....	.....	.....
1,000	1,000	1,000	5,000	1,200	3,000	9	60	.....	3	.....
500	1,200	50	1,000	50	250	.....	.....	.....	2	Designs to cultivate grapes and ornamentals chiefly in future. Soil clay loam, high rolling.
.....	.....	1,500	.....	.....	.....	.....	.....	.....	.....	A small general assortment—designs to enlarge.
.....	200	100	300	100	.....	.....	.....	.....	2	.....
.....	.....	.....	10,000	.....	.....	.....	.....	.....	.....	.....
15,000	5,000	500	6,000	11,000	13,000	6	.....	.....	.....	"Believing that the protection of our prairie orchards is absolutely necessary to success, I shall make the growth of such trees as are suitable for that purpose a feature in my nursery."
3,000	500	4,000	5,000	3,000	5,000	5	50	300	25	Has 2 greenhouses and a propagating house.
2,000	2,000	13,000	210,000	50,000	21,000	6	320	366	25	An extensive and well known wholesale and retail nursery, with greenhouse and propagating house.
.....	600	500	15,000	145,000	35,000	6	75	.....	8	Designs to make evergreens and small fruits leading articles; cultivates largely rhubarb, currants, gooseberries and strawberries for market.
300	500	.....	50	.....	.....	.....	.....	.....	.....	.....
.....	1,000	2,000	3,000	200	1,500	5	43	.....	6	.....
100	200	1,000	6,300	15,000	5,000	5	150	.....	5	These nurseries are 16 miles apart, and we design by transfers to keep a full assortment in each—shall make hardy varieties of apple trees. Small fruits and evergreens for protection the leading articles.

P. O. Address of Proprietors of Nurseries.	When established.....	No. acres permanently devoted to nursery.....	No. of acres covered in spring of 1859.....	No. apple trees of suitable size for planting in orchards.....	Do. smaller sizes.....	No. pear trees.....
Hotchkiss, N. & C. G., Belvidere, Boone	1849	16	14	120,000	50,000	300
Huggins, Jonathan, Woodburn, Macoupin	1854	25	18	25,000	35,000	500
Huntington, C. A., (Agt.) Rockford	1850	40	20	20,000	200,000	2,000
Hamilton, Charles, & Son, Ridgefield, McHenry	.....	35	22	1,000	230,000	1,200
Hewit, F., Upper Alton	1856	3½	6	4,000	4,000	200
Havens & Austin, Cass, Du Page	1853	.....	7	5,000	25,000	100
Herring, J. R., Durand, Winnebago	1847	10	10	20,000	30,000	50
Hibbard, Charles H., Marengo, McHenry	1847	12	10	25,000	15,000	1,000
Hunt, R. W., & Co., Galesburg	1857	60	30	30,000	200,000	1,000
Hopper, J. V., Bunker Hill, Macoupin	1857	.....	6	10,000	40,000	2,000
Johnson & Clark, Brighton, "	1857	80	20	10,000	40,000	1,000
Kennicott, Dr. J. A., West Northfield, Cook	.....	.....	.....	.....	.....	.....
Kinney, D. F., Rock Island	1854	16	12	35,000	40,000	1,000
Little, J. T., Dixon	1850	50	30	100,000	110,000	1,000
Montague, L., Louisa, Stephenson	1835	20	10	100,000	50,000	5,000
McWhorter, Tyler, Millersburg, Mercer	1846	15	.....	.....	.....	.....
Minkler, S. G., Specie Grove, Kendall	.....	.....	.....	.....	.....	.....
Manly, Uri, Marshal, Clark	1847	30	20	10,000	150,000	3,000
Overman & Mann, Bloomington	1856	100	40	5,000	250,000	1,000
Overman & Bushnell, Canton	.....	.....	.....	.....	.....	.....
Ordway, E., Freeport	1848	.....	7	5,000	.....	500
Pennington, Dr. L. S., Sterling	1842	30	30	50,000	20,000	2,000

THEIR PRODUCTIONS, ETC.—*Continued.*

No. peach trees	No. plum and cherry	No. grape vines for out-door culture	Estimated No. fruiting shrubs	No. evergreen trees	No. deciduous trees for ornament	No. varieties trees in quantities for screens	No. varieties hardy shrubs and plants	No. varieties green-house plants	No. varieties plants of culinary vegetables	REMARKS.
400	500	500	4,000	1,500	2,000	7	100	50	.....	Cultivates fruit trees with low heads.
10,000	500	500	5,000	4,000	2,000	5	50	10	.....	Trees grown in open prairie.
2,000	1,000	500	5,000	2,500	200	..	.....	.....	.....	.....
.....	200	3,000	50,000	2,500	200	.....	30	....	2	Principal busines—selling small stock to nurseries.
3,000	300	100	200	500	150	.....	.....	.....	.....	.....
.....	100	200	5,000	.....	500	.....	30	.....	2	Designs to enlarge.
.....	50	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	50	500	16,000	4,000	.....	.....	.....	.....	.....	.....
500	1,000	6,000	10,000	4,000	6,000	.....	52	82	5	"Roses, 295 varieties; dahlias, 256 named varieties; verbenas, 150 named sorts."
500	1,200	.....	.....	1,000	1,000	.....	.....	.....	.....	.....
3,000	1,000	1,000	3,000	2,000	5,000	.....	100	200	6	Design enlarging in ornamental department.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No returns. One of the oldest and most reliable nurseries.—Well known.—SEC.
1,000	500	300	1,200	600	1,500	4	200	.....	5	Soil, rich barrens.
.....	1,200	1,200	10,000	4,000	5,000	.....	200	10	5	Soil, oak barrens.—Devotes special attention to ornamentals.
200	1,000	5,000	5,000	.....	.....	.....	....	....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	About removing to Aledo.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A good stock of apple trees—moderate stock ornamentals.—SEC.
2,000	2,000	25,000	8,000	15,000	1,000	.....	150	.....	8	Great stock of grapes and small fruits.
20,000	6,000	3,000	20,000	25,000	1,000	8	40	.....	.....	Have in cultivation 150 acres of hedge plants.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A large nursery—nearly destroyed by hail, summer of 1858—design continuing with general assortment. 500,000 Osage orange plants.—SEC.
.....	1,000	100	2,000	1,000	500	.....	10	.....	.....	Cultivates buckthorn and berberry for hedges.
.....	.....	.....	.....	300	.....	.....	.....	.....	.....	80 acres orchard.

P. O. Address of Proprietors of Nurseries.	When established.....	No. acres permanently devoted to nursery....	No. acres covered in spring of 1859.....	No. apple trees of suitable size for planting in orchards.....	Do. smaller size.....	No. pear trees.....
Phenix, F. K., Bloomington	1852	.....	100	50,000	200,000	.....
Pettengill, J. A., Bunker Hill, Macoupin	1854	7	7	10,000	30,000	500
Payne, Thomas H., Freemont Centre, Lake	1845	50	45	60,000	80,000	10,000
Peterson, Robert, McHenry	1857	14	6	.....	150,000	25
Rogers, James H., Nora, Jo Daviess	1855	8	8	10,000	75,000	.....
Kennicott, Charles H., Sandoval, Marion	.....	.....	.....	.....	.....	.....
Scofield, D. C. & L. K., Elgin, Kane	1852	60	40	25,000	75,000	300
Starr, A. & F., Alton	1856	.....	25	.....	30,000	2,000
Strickland, Hugh, Roscoe, Winnebago	1851	10	2	7,000	150,000	.....
Sanders Edgar, Chicago	1857	3	3	.....	.....	.....
Stewart, J. & J. H., Quincy	1842	35	25	30,000	360,000	2,000
Snow, E. Payson, Marion, Ogle	1853	8	.....	20,000	40,000	.....
Shaw, Henry, Tremont, Tazewell	1849	20	30	60,000	100,000	1,000
Sherman J. S., Rockford	1854	25	25	12,000	375,000	3,000
Tull, J. R., & Son, Pontoosuc, Hancock	1848	15	18	40,000	10,000	1,000
Tenbrook & Clem, Paris, Edgar	1858	5	3	.....	10,000	500
Whitney, A. R., Franklin Grove, Lee	1843	80	85	300,000	200,000	1,500
Wakeman, James, Cottage Hill, Du Page	1853	16	18	30,000	60,000	6,000
Wamsley, C. C., Polo, Ogle	1852	16	.....	60,000	40,000	.....
Williams, Adnah, Galesburg	1852	30	20	10,000	50,000	500
Young, D. C., Joliet	1843	.....	10	7,000	40,000	2,000
Knowlton, Israel, Byron, Ogle	1843	.....	25	100,000	150,000	500
Barry, George, Godfrey, near Alton	.....	.....	.....	.....	.....	.....

THEIR PRODUCTIONS, ETC.—*Continued.*

No. peach trees.....	No. plum and cherry.....	No. grape vines for out-door cultivation.....	Estimated No. fruiting shrubs.....	No. evergreen trees....	No. deciduous trees for ornament.....	No. varieties trees in quantities for screens.	No. varieties hardy shrubs and plants....	No. varieties green-house plants.....	No. varieties plants of culinary vegetables...	REMARKS.
.....	.....	.....	.....	50,000	.....	.....	.....	300	.....	An extensive nursery containing *full* assortment.—SEC.
2,000	500	500	3,000	300	200	.....	100	25	.....	.....
.....	500	5,000	10,000	10,000	1,000	.....	150	....	.....	.....
800	50	500	500	1,000	400	25	.....	.....	.....	.....
.....	200	75	2,000	.....	100	.....	100	.....	1	.....
.....	.....	.....	.....	.....	.....	....	....	.....	.....	No returns. A new, extensive and reliable nursery.—SEC.
.....	200	100	2,000	50,000	18,000	15	.....	.....	.....	.....
.....	4,000	3,000	2,000	1,800	500	.....	90	50	2	.....
.....	.....	.....	2,000	.....	.....	.....	200	400	12	Designed for ornamentals, chiefly, greenhouse and bedding plants.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
25,000	2,000	1,000	40,000	20,000	10,000	.....	100	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A general assortment though small stock.
1,000	500	1,000	1,000	12,000	500	1	.....	.....	.....	Uses horse-power for digging, considers it superior to spade.
.....	3,500	2,000	100,000	10,000	500	7	25	40	4	.....
1,000	500	500	.....	1,200	.....	.....	.....	.....	.....	.....
1,000	600	500	1,000	1,000	500	.....	50	.....	.....	.....
.....	3,000	2,000	20,000	2,000	10,000	5	200	150	20	Two millions Osage orange hedge plants.
500	10,000	4,000	10,000	300	1,000	3	100	.....	.....	.....
.....	.....	.....	4,000	5,000	3,000	15	100	.....	.....	.....
200	500	300	10,000	125,000	10,000	4	200	100	20	.....
.....	.....	200	2,000	2,000	500	.....	200	.....	2	.....
.....	1,000	2000	20,000	500	500	.....	46	.....	.....	Designs to enlarge annually.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No returns. A new nursery containing a fine assortment.—SEC.

POMOLOGICAL AND HORTICULTURAL SOCIETY OF SOUTHERN ILLINOIS.

CENTRALIA, *Feb.* 1, 1859.

Pursuant to notice, a meeting of Fruit Growers and others interested was held, for the purpose of organizing a Pomological and Horticultural Society for Southern Illinois.

B. G. Roots, of Perry county, was called to the chair, and L. M. McCord appointed Secretary. J. M. Hunter, W. M. Howell and J. Warner were appointed a committee to draft a preamble and constitution for the action of the meeting, and the meeting took a recess until 3 o'clock.

At 3 o'clock the committee reported a preamble and constitution; which, after slight amendments, were adopted, as follows:

PREAMBLE:

The undersigned, fruit growers and citizens of Southern Illinois, believing that great benefit will arise from the formation of a Society for the discussion and consideration of Pomological and Horticultural affairs, do hereby ordain and adopt the following

CONSTITUTION:

ARTICLE I. This Society shall be known by the name and style of the "*Pomological and Horticultural Society of Southern Illinois.*"

ART. II. The boundaries of jurisdiction of said Society shall include all that part of Illinois south of the north line of township 12.

ART. III. Any person may become a member of this Society, by signing this constitution and the payment of the sum of one dollar.

ART. IV. The officers of this Society shall consist of a President, five Vice-Presidents, one Recording Secretary, one Corresponding Secretary, and one Treasurer.

ART. V. It shall be the duty of the President to preside at all meetings of the Society, preserve order, and perform such other duties as the by-laws may require.

ART. VI. In the absence of the President, at any meeting of the Society, the Vice-Presidents present shall choose from among themselves a President *pro tem.*

ART. VII. It shall be the duty of the Recording Secretary to keep a record of all business transacted at each meeting of the Society, and to collect all moneys due the Society and pay over the same to the Treasurer.

ART. VIII. It shall be the duty of the Corresponding Secretary to conduct all correspondence of the Society, and perform such other duties, connected with his office, as the Society may require.

ART. IX. It shall be the duty of the Treasurer to receive all moneys of the Society, and pay ont the same at the order of the Executive Board, countersigned by the President and Secretary.

ART. X. The regular meetings of this Society shall be on the last Tuesday of February, May, August and November; and the meeting in November be known as the regular annual meeting, at which meeting the officers shall be elected.

ART. XI. All the officers of this Society shall be elected by ballot, and no member shall be allowed to vote unless he has paid the fee of one dollar for the succeeding year.

ART. XII. The President and Vice-Presidents shall constitute the Executive Committee, for the transaction of business between the meetings of the Society, and shall have power to call special meetings of the Society when they deem it necessary.

ART. XIII. This constitution may be altered or amended at any regular annual meeting of the Society.

The Society then proceeded to the election of officers for the year ensuing, with the following results:

President—B. G. Roots, of Perry county.
Vice-Presidents—W. S. Wait, of Bond county; Uriel Mills, of Marion county; Wm. S. Bainbridge, of Union county; Wright Casey, of Jefferson county; Wm. Yates, of Perry county.
Recording Secretary—J. M. Hunter, Ashley.
Treasurer—J. P. Reynolds, Odin.
Corresponding Secretary—N. D. Ingraham.
General Superintendent First Exhibition—B. F. Wiley.

HONORARY MEMBERS OF THE SOCIETY.—F. G. Carey, editor of the Cincinnatus, Hamilton county, Ohio; W. R. Arthur, Superintendent Illinois Central Railroad: D. T. Moore, editor Rural New Yorker, Rochester, N. Y.; Thomas Meehan, editor Gardeners' Monthly, Philadelphia; N. J. Colman, editor Valley Farmer, St. Louis, Mo.; and all editors of agricultural papers in Illinois, and, also, the President of the Illinois State Agricultural Society were chosen as honorary members of the Society.

On motion of Mr. Hunter,

Resolved, That the President be instructed to correspond with the Vice-Presidents, to enable the Executive Committee to decide on the place for the May meeting and exhibition of the Society.

On motion of Mr. Lobdell,

Resolved, That the President prepare and cause to be published a list of premiums for the May exhibition of the Society.

On motion of Mr. Ingraham,

Resolved, That at regular exhibitions of the Society, the *members* shall be entitled to exhibitor's tickets for themselves and families, and that exhibitors who are *not* members shall pay one dollar for each exhibitor's ticket; and, also, that twenty-five cents, each, shall be charged for *admission* tickets.

On motion of Mr. Howell,

Resolved, That all persons, whether living within the prescribed boundaries of the Society or not, be invited to compete for the premiums.

On motion of Mr. G. H. Blelock,

Resolved, That a committee, consisting of Messrs. M. L. Wilcox, N. D. Ingraham, and C. W. Phillips, be appointed to draft by-laws for the Society, to report at the May meeting.

Adjourned.

M. L. McCORD, *Secretary*.

MEETING AND EXHIBITION OF THE SOCIETY.

JONESBORO, *May*, 31, 1859.

The Society met and was called to order by B. G. Roots, President. The only business presented was the Society's exhibition and fair, which was to open at 2 o'clock P. M.

Adjourned till 7 o'clock in the evening, to meet at the court house.

FIRST EXHIBITION AND FAIR.

The following is a list of the awards made at the first exhibition of the Society, held on the 31st May and 1st June, 1859, at Jonesboro.

CLASS A.—No. 1.

Best pair large Boquets for Vases:
First Premium—Mrs. J. M. Hunter, Ashley, Washington county. Premium donated to Society.

Best Round Boquet:
First Premium—James Price, Sandoval, Marion county. Premium donated.
Second Premium—Mrs. Martin Ury, Jonesboro, Union county.

Best Flat Boquet:
First Premium—J. M. Hunter, Ashley, Washington county. Premium donated.

Best display of Hardy Flowers by Amateur:
First Premium—Mrs. Nathan Dresser, Anna, Union county. Premium donated.
Second Premium—Mrs. C. G. Simonds, Jonesboro, Union county. Premium donated.
Complimented—Martin Ury, Jonesboro, Union county.

Best display of Hardy Flowers by Nurseryman:
First Premium—Charles Kennicott, Sandoval, Marion county. Premium donated.

CLASS A.—No. 2.

Best display of June Roses:
First Premium—J. M. Hunter, Ashley, Washington county. Premium donated.
Second Premium—Benjamin Vancil, South Pass, Union county. Premium donated.

Best display Perpetual Roses:
First Premium—J. M. Hunter, Ashley, Washington county. Premium donated.

Best display Green House Plants:
First Premium—J. M. Hunter, Ashley, Washington county. Premium donated.

Best display of Wild Flowers:
First Premium—Benjamin Vancil, South Pass, Union county.

Best display of Delphinums:
First Premium—Charles Kennicott, Sandoval, Marion county. Premium donated.

Best display of Pinks:
First Premium—E. M. Sumner and J. Frick, Jonesboro, Union county.

Best display of Phloxes:
First Premium—Charles Kennicott, Sandoval, Marion county. Premium donated.

Best display of Spæirs:
First Premium—Charles Kennicott, Sandoval, Marion county. Premium donated.

WILSON'S SEEDLING STRAWBERRY.

[Face page 381.

Best display Cut Flowers:
First Premium—Charles Kennicott, Sandoval, Marion county. Premium donated.

CLASS A.—No. 3.

Best Zoological collection:
First Premium—Dr. S. S. Condon, Jonesboro, Union county. Premium donated.

Best Geological collection:
First Premium—Dr. Condon, Jonesboro, Union county. Premium donated.

Largest collection of Insects:
First Premium—Dr. Condon, Jonesboro, Union county. Premium donated.

CLASS A.—No. 5.

Best and greatest variety of Green Fruits:
Complimentary Notice—B. Vancil, South Pass, Union county.

Best and greatest variety Strawberries:
First Premium—Newhall & Clark, South Pass, Union county. Premium donated.
Second Premium—Dr. Condon, Jonesboro, Union county. Premium donated.

Best single variety Strawberries:
First Premium—William Yates, Tamaroa, Union county. (Wilson's Albany.) Premium donated.
Complimentary Notice—H. W. Willard, Jonesboro, Union county. (Necked Pine.)
Dr. Warder, of Cincinnati, Ohio, exhibited 33 varieties of Strawberries; not entered for competition.

Best Gooseberries:
First Premium—H. W. Willard, Jonesboro, Union county. Premium donated.
Second Premium—F. M. Sumner, Jonesboro, Union county. Premium donated.
Complimentary Notice—M. Ury, Jonesboro, Union county.

Best Raspberries:
First Premium—Charley and Willie Willard, Jonesboro, Union county.

CLASS B.—No. 6.

Best Canned Peaches:
First Premium—Mrs. Mary Sowers, Jonesboro, Union county.

Best Preserved Blackberries:
First Premium—Mrs. Mary Sowers, Jonesboro, Union county.

Best Canned Blackberries:
First Premium—Mrs. J. M. Hunter, Ashley, Washington county. Premium donated.

Best Canned Cherries:
First Premium—Mrs. J. M. Hunter, Ashley, Washington county. Premium donated.

Best Preserved Fruits for display:
Complimentary Notice—Davis & Lobdell, Centralia, Marion county.

CLASS C. No.—7.

Best Tomatoes:
First Premium—Robert Gow, Anna, Union county.

Best Beets:
First Premium—F. M. Sumner, Jonesboro, Union county.
Second Premium—B. Vancil, South Pass, Union county. Premium donated.

Best Radishes:
First Premium—B. Vancil, South Pass, Union county. Premium donated.

Best Early Lettuce:
First Premium—Martin Ury, Jonesboro, Union county.
Second Premium—Mrs. A. H. Marschalk, Jonesboro, Union county. Premium donated.

Best Cucumbers:
First Premium—Newhall & Clark, South Pass, Union county. Premium donated.

Best Asparagus:
First Premium—H. W. Willard, Jonesboro, Union county. Premium donated.

Best Early Cabbage:
First Premium—Robert Gow, Anna, Union county.

Best variety Pie Plant:
First Premium—H. W. Willard, Jonesboro, Union county. Premium donated.

Best three varieties Pie Plant:
First Premium—Hawley & Lobdell, Centralia, Marion county. Premium donated.
Second Premium—H. W. Willard, Jonesboro, Union county. Premium donated.

Best Early Peas:
First Premium—H. W. Willard, Jonesboro, Union county. Premium donated.
Second Premium—Mrs. A. H. Marschalk, Jonesboro, Union county. Premium donated.

Best Green Corn:
First Premium—B. Vancil, South Pass, Union county. Premium donated.

CLASS D.—No. 8.

Best display Wax Fruit:
First Premium—Mrs. J. F. Lobdell, Centralia, Marion county. Premium donated.

Best display Wax Flowers:
First Premium—Miss Clara Tyrell, Tamaroa, Perry county. Premium donated.

CLASS D.—No. 9.

Best display of Ambrotypes:
First Premium—T. S. Underhill, Jonesboro, Union county.

CLASS E.—No. 10.

Best collection of Native Mosses:
First Premium—B. Vancil, South Pass, Union county. Premium donated.

Best display Horticultural Tools:
First Premium—B. Vancil, South Pass, Union county.

Best display Horticultural Books and Papers:
First Premium—J. A. Carpenter, South Pass, Union county.

NATIVE WINES.

First Premium—Davis & Lobdell, Centralia. (White Grape Currant.) Premium donated.
Second Premium—Mrs. C. G. Simonds, Jonesboro. (Blackberry.) Premium donated.
Complimentary Notice—Mrs. C. G. Simonds, Jonesboro. (Red Currant.) Premium donated.

DISCRETIONARY.

Gooseberries in Jelly:
First Premium—Mrs. Wm. M. Howell, Central City, Marion county.

Best Pumpkin:
First Premium—Martin Ury, Jonesboro, Union county.

Best Funkias:
Complimentary Notice—Mrs. E. M. Sumner, Jonesboro, Union county.

Best Onions:
First Premium—Martin Ury, Jonesboro, Union county.

Best Balsam Fir:
First Premium—J. A. Carpenter, South Pass, Union county.

Best New Wheat:
Complimentary Notice—James H. Crain, Burkeville, Pulaski county.

Best Osier Willow:
First Premium—James H. Crain, Burkeville, Pulaski county. Premium donated.

Best Squashes:
First Premium—Elijah Vancil, South Pass, Union county.

Best collection of Shells (Marine):
First Premium—Mrs. C. G. Simonds, Jonesboro, Union county. Premium donated.

Best Roses in Pots:
First Premium—Mrs. Nathan Dresser, Jonesboro, Union county. Premium donated.

N. D. INGRAHAM, *Cor. Secretary.*

ADJOURNED MEETING.

The Society met in the Court House, and President Roots took the chair, at 7 o'clock. Having introduced Dr. John A. Warder, of Ohio, Dr. A. delivered an address on the cultivation of the Strawberry, a sketch of which follows:

[Notes of Dr. Warder's address taken by C. D. Bragdon, Esq.]

Dr. Warder said he should confine himself to plain matters of fact, taking very good care not to tell all he knew, which is a very dangerous thing for a stranger to do. He doubted if he said anything not known before. It was proper he should talk about

STRAWBERRIES.

Talk upon the strawberry question—not the strawberry theory. The strawberry question has been called a theory outside of Cincinnati; but it is a theory that causes us poor fellows to send into the Cincinnati market *eight hundred bushels* of strawberries per day, to be toted off to the northern cities, for he would not have us think that the poor Cincinnatians are obliged to eat eight hundred bushels of this fruit per day.

The natural history of the strawberry is simple and easily told. The habitat of the strawberry is extended. In Europe the Wood strawberry grows in Alpine regions. In this country the strawberry is found on the level grounds, on the mountain ranges and on the prairies. Botanically, it belongs to the family Rosaceæ—the family of roses. Its specific name is Fragaria, because of its fragrance. Botanists have overlooked peculiarities in the strawberry well known to horticulturists. A perfect flower is one that has all the producing organs perfect. The essential organs of reproduction are the stamens and pistils. The latter are found in the centre of the flower; outside and around them are the stamens. These are the essential organs of the flower. They are found in every perfect flower. What botanists call perfect flowers ladies would call weeds—they judge by the beauty of the petals. Botanists have described the family of Rosaceæ as having perfect flowers. Horticulturists find this to be different. Hence we divide the strawberry into two classes—staminate and pistillate, about which so much wrangling has been had. Some have cited the authority of authors to prove that plants belonging to this family are perfect. Even Gray says not a word about this peculiarity of the strawberry. No matter, however, what authors may say, the Father of Nature says differently. We found, by this classification, that this broad distinction was a useful one. Hermaphrodites were called perfect, but they are not perfect. Many that appeared perfect of this class of plants would only produce one berry in ten flowers. It is from this discovery that the so called Cincinnati theory dates. Nicholas Longworth, who spent large sums of money, previous to this, procuring the best varieties, was obliged to buy berries for his own table.

European gardeners do not appear to know the existence of pistillate strawberries. The French Bicton Pine, the Belgian Triomphe de Gand, the English Victoria and other premium strawberries coming to us with high foreign reputation, are altogether decidedly staminate, having many unfertile flowers. His own crop, after two years culture of these highly lauded and esteemed sorts, was only two or three berries. He brought his entire crop to exhibit to the people of Southern Illinois. They will not pay for extended culture. They are exquisitely flavored, but will not do for the people.

Dr. Warder related the oft told story of Nicholas Longworth and the boy. The boy was sauntering through Mr. Longworth's strawberry patch. The latter was whittling. Said the boy, "Mr. Longworth, I reckon you won't have many berries."

Mr. L. asks, "Won't I have a few?"

"Yes, I reckon so. You will have a few there, and there, and there," pointing to different spots in the bed.

Mr. L. had his wits about him, and stuck stakes where the boy said there would be fruit, and there the fruit grew. This was the clue, the suggestion, that gave Mr. Longworth what he gave the Cincinnatians and is giving to the world with regard to the secret of success in strawberry culture.

Dr. W. exhibited drawings illustrating these different classes of flowers, staminate, pistallate and hermaphrodite. To find a really staminate flower is a rare thing. These differences exist in nature —not in weather causes or in the mode of culture. There are those that look perfect that are not perfect. It is unfortunate that the term hermaphrodite has been introduced. It has come to be a third description of strawberry. The term is now applied to such as have a perfect flower or the staminate and pistillate organs equally developed. Of this class he names Wilson's Albany, a vigorous, healthy grower, bearing well developed fruit, and Longworth's Prolific, another excellent kind. Their peculiarities belong to their normal condition, not to culture, frost, &c. They originate from the seedling, and are always found peculiar to their variety, no matter what the culture. These expensive and premium plants from the east and Europe being unproductive, we looked and found a native, a poor little native Necked Pine, whose very origin is involved in doubt, purely pistillate, so christened it. We took the hint from an old Dutch woman and put the staminates near them, thus rendering them productive. These pistillates must have the staminates near them. Those, therefore, who do not like strawberry theories, and will not take the trouble to plant staminates and pistillates, should get the hermaphrodites, such as Wilson's Albany, Hooker, &c. There is no mystery in raising strawberries.

He was surprised to find, in Downing's new edition, advice to be careful not to take strawberry runners from a bed of strawberries that has degenerated. Cannot understand that. The runners

of the plant are identical with and as good as the original plant. Downing excepts some, which explains it. He excepts the Hautbois, which affords a clue to the cause of this advice. The pistillates are crowded out by the rank growing staminates. His appendix or exception, explains the advice. Dr. W. does not believe one word on degeneration, for degeneration means mixed, which cannot be.

Under peculiar circumstances some of these staminates seem to vary a little. Iowa is a staminate, and is sometimes productive, especially where the plants are not crowded. They have a better chance when thin, planted in hills or bunches.

HOW STRAWBERRIES ARE GROWN AT THE RATE OF EIGHT HUNDRED BUSHELS PER DAY.

In any good, clean, western soil, you can depend upon growing strawberries profitably. In the woody country about Cincinnati and other parts of Ohio, the timber is cleared off or the trees girdled, ground stirred up and corn planted. Any wet time during the summer the strawberries are planted between the rows of corn. The corn is harvested and the stalks left on the ground. After the corn is off the plants continue to grow, making a vigorous growth in the fall. The corn stalks, if left on the ground, are a protection; leaves drift in, and are also a benefit. In spring we cut off the stalks; the 1st of May put in the shovel plow, throwing dirt right and left. If the dirt is thrown upon them, never fear. But, be it remembered, that dirt is only to cover the roots when planting is done. No portion of the leaf-stalk should be put under ground at planting. Cultivate this year; the first year after planting there will be little fruit. The second season we get the market crop—the heavy crop. The third and fourth years the crop is not so large; the plants are too crowded. Something must be done. Then put in the plow and plow the field in every direction; cut and cover; tear it all to pieces; then put on the harrow and harrow it thoroughly. There will be plants enough left after this treatment. They will grow vigorously and bear abundantly the next season. The finest fruit in the Cincinnati market this season was from vines treated in this manner last August. There were Iowas measuring an inch and one-fourth in diameter. If kept clean, strawberry plantations will do well year after year. Edwards, of your state, will tell you the same story, and his treatment of his beds is very similar to that described.

Mr. Galusha asked what three varieties he would recommend as best for general cultivation for general purposes.

Dr. W. prefers pistillates for profit and his own taste. First and foremost he mentions the Necked Pine—old fashioned, a little too soft for carrying, productive, well flavored and sweet enough when ripe. Second, Extra Red or No. 3, (Cincinnati seedling.) The berries will average an inch in diameter. Had counted fifteen ripe berries on a single truss. These are the two pistillates he would select. Third, Wilson's Albany—deservedly a favorite be-

cause of its productiveness, appearance and carrying qualities; but he must say he had never tasted a good strawberry of it. He would plant equal proportions of each of the kinds named.

Some of those flowers which appear perfect do not grow perfect berries; so of pistillates. The berries are irregular, ugly shaped, from error of impregnation; named McAvoy's Superior as such a variety. He has picked perfect Extra Reds fully a hundred feet from any staminate flower. He believes insects have much to do with impregnation. In selecting varieties of staminate and pistillate strawberries, it is important to select such as have strong character in their foliage. We cannot tell the sexes apart by their foliage. It is desirable to select such as are distinct. Recommends the Hudson as a pistillate variety, a favorite about Cincinnati, in place of the Necked Pine, if the cultivator wants a darker and firmer fruit. For a late strawberry recommends Willis' Seedling, though small.

Dr. Warder was followed by C. R. Overman, President of the State Horticultural Society, in regard to the future use and importance of this Society, and he expressed the earnest hope that the people of the north and south would be united in advancing the horticultural interests of the State, which he was sure they would be, and that this State would ultimately become as famous for its fruits, as it was for its cereals, and for all other food which grow here to feed the millions of other States.

On motion of Mr. Phillips,

Resolved, That the thanks of the Society be tendered to Dr. Warder for his address and for the rich display of strawberries, twenty-two varieties, which he presented for exhibition.

On motion,

Resolved, That the thanks of this Society be tendered to all editors in this State who have taken an interest in the present exhibition and fair.

On motion,

Resolved, That the committee on by-laws be allowed to defer making their report until the next meeting.

After some minor business was transacted, the Society adjourned to meet next evening at the same time and place.

On Wednesday, June 1st, the Society again met at the court house and listened to an able lecture by C. Thomas, Esq., of Murphysboro, on Entomology.

After which the Society adjourned to meet on the fourth Tuesday of August, at such place as shall be fixed upon by the committee for the next exhibition and fair.

JOHN M. HUNTER,
Rec. Sec. Southern Illinois Pom. and Hort. Society.

NORTHWESTERN FRUIT GROWERS' ASSOCIATION.

This Association, made up of members from Missouri, Iowa, Wisconsin and Illinois, and which had occupied a distinguished position among the Pomological institutions of the country, held its last meeting in Alton, on the the 2d and 3d days of October, 1857. This action on the part of the members from Illinois was the result of a conviction that their energies and efforts were required to sustain their own State institution, the Illinois State Horticultural Society; and for these reasons only can we be satisfied with the dissolution of an association which had done much for Pomological Science in the west, and the recollections of which will long be dear to its original members and friends scattered over the northwestern States.

One of the closing acts of this Association was the receiving and adopting a report, from a committee to whom the subject had been referred, recommending a list of apples for cultivation in Northern Illinois and Wisconsin, Central Illinois and Southern Illinois. That list is given below:

1	Early Harvest	C	S
2	Red June	C	S
3	Red Astrachan		S
4	Sweet Bough		S
5	Sweet June	C	S
6	Summer Rose	C	S
7	American Summer Pearmain	C	S
8	Ramsdell's Sweet		S
9	Golden Sweet	C	S
10	Yellow June	C	
11	Keswick Codlin	C	
12	Dana	C	
13	Hocking	C	
14	Fall Pine	C	S
15	Maiden's Blush	C	S
16	Rhode Island Green		S
17	White Bellflower	C	S
18	Rambo	C	S
19	Hubardson's Nonesuch		S
20	Buckingham		S
21	Peck's Pleasant	C	S
22	Pryor's Red		S
23	Jonathan	C	
24	Autumn Swaar (sweet)	C	S
25	Downing's Paragon	C	
26	Fameuse	C	
27	Roman Stem	C	
28	Early Winter Sweet	C	
29	Yellow Bellflower	C	
30	Swaar	C	
31	Fulton	C	
32	Sweet Nonesuch	C	
33	White Winter Pearmain	C	
34	Early Pennock		
35	Lowell		
36	Ladies' Sweet		
37	Domine		
38	Herefordshire Pearmain		
39	White Pippin		
40	Whitney's Russet		
41	Bailey's Sweet		
42	Minkler's Sweet		
43	Red Canada		S
44	Willow Twig	C	S
45	Winesap	C	S
46	Raule's Janet	C	S
47	Newton Pippin	C	S
48	Gilpin		S
49	Tallman Sweet		

[The letters on the right hand of the list are intended to designate, N, Northern Illinois and Wisconsin; C, Central Illinois; and S, Southern Illinois.]

This last meeting of the Association, having been held in October, after the hard winter, every thing was rejected that yielded to the

severe frosts of that long to be remembered winter. The Rambo was retained by a close vote. Those trees that were protected stood well, and their owners insisted on retaining this popular old sort. It may be well to remark here, as was observed at the meeting, that when orchardists protect their orchards by belts of deciduous or evergreen trees, and underdrain them, less complaint will be likely to be heard of tender varieties of apple trees.

ADDRESS OF DR. JOHN A. WARDER, OF CINCINNATI,

BEFORE THE NORTH-WESTERN FRUIT GROWERS' ASSOCIATION, AT ALTON, OCTOBER 2D, 1857.

GENTLEMEN OF THE ASSOCIATION:—Allow me to congratulate you upon the return of this annual convocation of the *Fruit Growers* of the great North-west. It is an occasion of deep interest to those of us who are engaged in this important branch of agricultural pursuits. The production of delicious fruits and the various trees from which these fruits may be gathered, has, indeed, in these latter days, assumed an importance among the interests of our country that cannot be questioned. In former times there was a small nursery here and there, from which the neighboring farmers supplied themselves with the few trees they desired to plant; indeed many orchards were grown upon a corner of the farm upon which they were to be planted. In those days the best varieties were limited to a few, or in most cases, the orchards were planted with seedlings, or "sprouts," as they were called. Thus the responsibility of the nurseryman of those times was small, and thus too, a modicum of knowledge in fruits, made such a man quite an oracle among his neighbors. Now, this is all changed—intelligent men devote their whole energies, talents and capital to this department of industry, their trees are counted by millions. Their responsibilities to community are thus vastly increased, and hence the absolute necessity of these periodical convocations of nurserymen and orchardists, in which the different members come forward, each with his quota of information, gathered within the range of his own observation, and eager to inform himself of what others have done in the march of progress, so that all may increase their stock of knowledge. This system of mutual aid marks the spirit of the age in which we live; it is applied in many departments of human knowledge—the highest savans find advantage in thus conferring together, in their association meetings, and the common artizan is benefited by exhibiting his fabrics, and interchanging views with his fellow laborers, at the crystal palaces and other industrial exhibitions which have been held in our country, and have characterized the age in which we live.

In our own favorite department of Horticulture, in the pursuit of Pomology, each student must be self-dependent; he must observe peculiarities of wood, leaf, habits, and mode of growth of the tree; he must closely study the peculiarities of shape, color, structure, seed and flavor of the fruit, as well as the physiology or nat-

ural history, of the whole plant, its favorite soils, manures and general treatment; all these matters he may, indeed he must study out for himself, and yet, by means of books, imperfect as they unfortunately are, and by the aid of remarks made by such other observers in the same field, as he will meet at these Pomonal festivals, he will often have his attention directed to the scrutiny of many points in the character and history of fruits, that would otherwise have escaped his observation. The fewest of us have ever been taught to observe properly. Having eyes we see not as we should—hence the great importance of these meetings. Then again, the number of fruits in cultivation, and the years necessary for them to come into a state of productiveness, require a lifetime for any one person to study them all upon his own grounds—whereas, we may here see the fruits produced by others, and may, from their own lips learn the various peculiarities, so far as they can be expressed in vocal language.

Within a limited range, it has been found that certain varieties are more or less successful, according to the adaptation of soil and climate, and too, according to the wants and tastes of the *market* for which the fruits are produced. Thus in some cities, a red apple is preferred to a white one, while perhaps the same purchasers may prefer a pale strawberry to a dark colored fruit—some persons will pay a better price for free stone peaches—some will eschew all but the pavies or clings—some will demand the largest varieties of all fruits, taking size as a qualification, even at the expense of flavor, while other customers, with better judgment and greater economy, will select the medium sized and smaller fruits, particularly in apples, pears and peaches, because they find them also more frequently remarkable for their high flavor and excellence. These circumstances have been noticed and the organization of local Horticultural societies and clubs, have furnished schools of great value to the neighboring cultivators. For more extended areas, and for the benefit of those persons who live isolated from others engaged in similar pursuits, State Pomological societies and conventions have been found of great advantage, although, with the extension of area we always find greater diversity in the opinions expressed by the different members, and consequently less definiteness in the data, to be derived from the deliberations of the body—particularly in the attempted decisions upon fruits, and their estimated value as expressed in the formula adopted. *Our* association, being open to the immense territory that may urge a geographical claim to the "North-West," although it embraces some of the most acute observers, and most intelligent and best informed pomologists on the continent, and although it has already held some of the most interesting meetings, and made the finest exhibitions of fruits, and has, in its deliberations, arrived at very satisfactory conclusions upon some quite important practical points, still, we may expect to find less and less unanimity in voting upon the merits of certain fruits, in the ratio of our numbers

and the greater extent of territory represented at our meetings. In this respect our organization similates that of the American Congress of Fruit-Growers, now known as the United States Pomological Society, which, at its biennial sessions, attempts to collect and collate the fruits and opinions of the orchardists of the whole continent.

The importance of these grand re-unions of Pomologists begins to be appreciated in Europe, particularly on account of their labors in reducing the labyrinths of synonomy, which were formerly so very bewildering to nurserymen and orchardists, but which have been greatly reduced at every meeting. Great Britain may be said to have *followed us* in the organization of Pomological societies, and about the present time the second Pomological congress is being held for France. Would it not be well for some of our American societies to be there represented by an intelligent delegate, with samples of our glorious fruits? The French have extended to us the invitation, but I have not heard of the appointment of any representative from any of the numerous societies of this continent to meet with the French *Pomological Congress.*

1st. With regard to the production and management of trees in the nursery, it will not be expected upon such an occasion as this, that you nurserymen should be lectured upon the details of your art, nor that the arena of the planting, culture, budding and grafting trees should be treated in their minutiæ; of all these topics you are supposed to be already the masters—their thorough discussion would require a long course of *prælections*, more appropriate for a systematic round of lectures upon the subject, such as may yet be demanded by the people in the agricultural schools to be established, and let us hope, such as will, one day, be furnished, when a complete establishment for an industrial education shall be perfected. The importance of having healthy and vigorous *stocks* upon which to work our choice varieties is very well established; these should generally be *seedlings*, and, in those kinds of trees that are readily reproduced from the seed, such as the apple, pear, cherry and peach, among our fruits, seedlings are almost universally used. Here, however, we may exercise a selection of the seed to be planted; certain families, in each species, being found much more vigorous and hardy, they should always be selected as the source from whence to propagate our supply of stocks—for it is not true that seedling stocks are always more vigorous and hardy than those produced by layering, or from cuttings—quite the opposite state of things has frequently been observed in the nurseries of the north west, and many of you have seen the seedlings suffer more from the severity of the weather than grafted or budded trees of the same species, even when standing in the seed bed, in their native integrity, tap root and all undisturbed. I do not, however, agree with some leading writers who have advanced the theory that every tree should, of necessity, have a *separate individuality* in its collar and descending axis or root system—in or-

der to make it a perfect specimen. In some cases, it is true, the chances of producing a perfect development, are found almost exclusively among the *seedlings* of a species, since those specimens that are produced by *extension*, whether as layers or cuttings, and in some instances, even by grafts, which are simply cuttings, inserted into a bed of forming wood, connecting them with the soil, instead of into the earth itself; *such specimens*, I say, do not furnish us with the full development of tree. This is particularly the case with certain evergreens, with a strong leader. These, however, are the exceptions to the rule, and, in the majority of cases, we may safely propagate any variety to an almost indefinite period, so far as we know, by means of cuttings, whether of *twig* or *root*, by layers, as also by grafting and budding. I shall not here attempt to discuss the Knightian theory, nor express further opinion respecting the *duration of varieties*, than merely to suggest, that other causes, such as the exhaustion of the soil, and other want of favorable condition, may have had something to do with the failure of some varieties of fruits—and, as a *per contra*, I will direct your attention to specimens upon your tables of some fruits that have been cultivated for centuries. At the recent national exhibition of Louisville, Ky., several of the European varieties of apples were exhibited, that even exceeded in beauty, soundness and excellence, the pictures and descriptions of the same fruits, taken from their original sites and stocks.

I have said, that the stocks upon which the nurseryman should work his trees, should generally be seedlings—there are, however, exceptions to this—there are species and varieties that are much more expeditiously and more successfully propagated by cuttings, by division and by layers, and, so far as we can judge, at present, laying theoretical views aside, these plans are perfectly safe, and the specimens thus produced are perfectly healthy.

Too much stress has been laid upon seedlings and their hardiness—valuable for the production of new varieties and then should be conducted with skill, by hybridizing, to produce effects.

To proceed from this digression, to the consideration of nursery treatment of trees, it must be premised that the ground should have been well selected and thoroughly prepared by draining and deep culture. High, stimulating manures are not advised, but all such means should be applied, as will produce a *vigorous growth* in the early part of the season—among these the warmth effected by *deep drainage*, *thorough tilth* and *moderate manuring*, will exercise a powerful influence, and may be much aided by constant cultivation. This is the natural period of growth by longitudinal extension, the remainder of the season being appropriated to the perfection of the wood cells and to the storing up of the proper juices in those centres of life, *the buds*, in which the vitality of the tree is collected, and upon which, indeed, the continued existence of perennial plants depends, just as in those of annual growth, the whole vitality of each individual is concentrated in its seeds. The buds

may be looked upon as the seeds, from which the next crop of leaves and wood is to proceed—hence the absolute necessity of having these perfectly matured before the approach of winter. Nurserymen desire to produce as much growth by *extension* as possible, and by high manuring and constant culture, the young trees may be stimulated, in most seasons, to continue their growth until the end of summer, and even into the autumn, and, owing to our glorious climate, they may still be able to make all their arrangements for *hibernation* in a satisfactory manner—such, however, will not always be the case, and too often the hibernal blasts will come upon such trees, when they are illy prepared to withstand their blighting influences, in consequence of the sappy condition of their shoots, and the soft and imperfect state of their buds. Every observant nurseryman is aware of the importance of having the terminal buds of his young trees completely perfected before the close of autumn, and not again excited into activity before the cold winter. Another point in regard to the treatment of nursery trees should be immediately mentioned in this place—that is their *pruning*. The natural direction of growth is upward—every young tree will incline to have a *leader* or main shoot, tending upward—the nurseryman, emulous of producing as great an amount of growth as possible, will be inclined to encourage this shoot by removing all lateral branches—the crowded condition of the young plants in the nursery also favors this result. Sometimes the effect of all these forces is to produce a set of tall, smooth and beautiful canes, straight as an arrow. Some varieties, however, especially of the pear, will incline to one side and then the determined cultivator of tall trees, will force them into uprightness, and tie them up to stakes to effect his object. All this is wrong—the tree, like the child, needs an equable development of all its parts, in every direction. To produce this effect in the nursery, sufficient space must be allowed ; the lateral branches must be encouraged, though subordinated, and the leader must simply be maintained in its supremacy by having all competitors kept down, by twisting, pinching off or otherwise shortening in. To prevent a late growth of the young trees, it has been suggested to discontinue all cultivation or stirring of the soil after midsummer, even allowing the weeds to take possession of the spaces between the rows, which gives the nursery a very slovenly appearance. A better plan has been practised by our friends, Overman, of Canton, Ill., who sow about three bushels of oats per acre, at the last dressing of the trees, say in July. A thick grassy carpet is thus spread upon the ground, which covers the surface and takes up the redundant moisture, checking the growth of the young trees and affording a shelter also from the wintry cold.

If cultivation be considered necessary to destroy weeds after midsummer, this operation should be performed by means of a sharp scarifier horse hoe, which would only cut off the weeds at or near the surface of the ground. A very important part of the nur-

sery management of young trees consists in the manner of taking them up from the rows. Those which have been perfectly managed up to this time, which are thoroughly, well and evenly developed, stocky and firm, may now be utterly ruined by carelessness on the part of the diggers. The spades should be inserted into the ground in such a manner as to spare the roots as much as possible, the earth carefully removed from each side and a large proportion of the fibres preserved. Instead of this, we often see beautiful trees, with scarcely any roots left upon them, or perchance, the mattock having mangled them terribly.

One of the best methods of securing good roots, particularly an abundance of small and fibrous roots near the collar of the tree, so as to be removed, at the time of taking up for sale, is to have the nursery trees transplanted once or twice during their nursery existence. This plan, however, requires more labor than most of our large nurserymen could bestow upon their trees. Lifting from their beds, without removal, may be practised at less cost, and with similar good results.

Packing trees suitably is a matter of no less importance than digging them well, and the consideration of this topic very naturally ensues. It has been observed by nurserymen that purchasers objected to the charge made for packing the trees properly, and this has been urged in excuse for the very slovenly plan often pursued. Good nurserymen will not only dig up their fine trees with care, but they will be unwilling to have them leave their premises without being carefully secured, and they should be paid for their trouble. Some one has proposed to change the items in the bills, and to write,

For 1000 trees,	$000 00
For packing the same,	150 00
Total,	$150 00

A very important query has arisen in regard to the preparation of trees for transportation, before packing them. One of your own number has again suggested the matter to me within a few days. In order to receive our trees from the nursery in as short a time as may be, all judicious persons now employ the express lines, wherever they can be found running in the direction of transportation needed. The increased expense of the freight becomes a serious matter, but the advantage of rapid transit is supposed to counterbalance this. The suggestion I have to make to the nurserymen may be conveyed by this query—How much freight may be judiciously saved by a proper pruning of the trees before they are packed? Many of our best nurserymen and tree planters recommend the severe heading in of all trees, except evergreens, when they are set out. Now if this trimming is to be performed at all, why not have it done at the nursery and thus avoid paying freight upon this useless brush? The packing can be more snugly performed also. For my own part, however, I should rather save freight by selecting younger trees.

SITE FOR AN ORCHARD.

To a man who is about to plant fruit trees one of the most important points to have settled correctly will be the selection of the site for his orchard. In a large proportion of our country late spring frosts frequently occur, and often destroy the blossoms and even the young fruit of our favorite trees, on account of their early blooming, or from some individual peculiarities, certain varieties are more obnoxious to this calamity, so also, other sorts are less liable to suffer. These differences should be carefully considered when making a selection of kinds. We now have to consider the choice of a site and should first look for a position least liable to this difficulty, and at the same time endeavor to find one that shall not be liable also to a too early excitation of vitality about the close of winter. For the peach orchard this is particularly important, for we have learned that the blossom buds of this delicious fruit are not necessarily destroyed by a mere depression of temperature below a certain point, as was once supposed, but that a slight degree of excitation of the sap having been induced by a spell of mild weather a comparatively moderate amount of cold is often the cause of their death and the destruction of the crop. On these accounts, as well as because of a dryer soil, elevated positions, even where the difference in altitude is but moderate, will always be found the best for orchards. On the ridges, too, we generally find a thinner soil than upon a lower depression of the earth's surface, and though the choice fruits we desire to cultivate must receive generous treatment at our hands, we shall find the best specimens and the soundest as well as the fairest, upon elevated land of moderate fertility. There must be enough of the elements of the tree and its fruit to insure a full development of each, if we would expect success in the orchard—but, while our receipts will be small from the scraggy, stunted trees of a sterile soil, on the other hand, the fruit grown upon the wide spreading trees of our most fertile bottom lands will be found, with all its size, less sound, less compact, less completely perfected, with a minimum of flavor, and often covered with lichens that sadly disfigure its beauty.

The *site* of an orchard is a matter of the highest importance. Differences of level in any given region, as has already been noted, have very different temperature, and as slight depression, at certain periods, when the thermometer stands near 40 deg., will produce frost, it is exceedingly desirable to avoid a situation liable to this calamity which is destructive to tender vegetation. Late or spring frosts are often the cause of our losing a crop when the trees have withstood the rigors of a severe winter. For this reason elevated ridges, particularly when so situated, as that the cold air can easily flow off into valleys and gorges among the hills, have been well selected for orchards, and the planters of such grounds have been rewarded for their judgment; it is not enough that the land should be elevated, the elevation must also have its adjoining valleys to receive the cold air. Of all situations the *basins* on elevated ta-

ble lands should be avoided, as such depressions are peculiarly obnoxious to frosts. Proximity to a large body of water has also been found to be of great value as a protection from late frosts. This may at first appear paradoxical, but it is a well established fact, and the circumstance is easily explained upon scientific principles: A constant evaporation is occurring from the surface of water, in which process a large amount of heat is consumed, and becomes hidden in the vapor. As much heat is locked up in the slow evaporation of a gallon of water, as in the rapid ebullition of a similar quantity in a tea kettle. This heat is not lost, but is hidden for wise purposes. The vapor, at whatever temperature, whenever it becomes chilled, resumes its original form of a liquid, and in this change it again gives off its hidden heat, in a sensible form, to exercise its genial influence upon surrounding matter, the earth, the air and plants. *Evaporation* is a cooling process and *Condensation* of vapor is a warming operation. This influence of water in tempering the atmosphere is, no doubt, felt near our great rivers, especially where the prevailing winds direct the currents of the air, thus laden with moisture, towards the orchard. The lakes of our country are known to exercise a most happy influence upon the retarding of vegetation in the early spring, and then they protect from late frosts in the spring, and also ward off the early chills of autumn; thus, at Kelly's Island, near Sandusky, in Lake Erie, we find a paradise for fruit culture, notwithstanding the high latitude. The Lake shore, near Cleveland, Ohio, has become famous for the success of its fruit growers.

Aspect is of equal importance, and this is a matter that will be much more within the control of the majority of us, for few can have the opportunity, in large tracts of our country, of choosing high ridges, nor can many enjoy the privilege of lacustrine or fluvial influences upon the climate. The favored few should improve their advantages, but for the rest of us we must take the land as we find it. Still, it may well be questioned whether orchards, beyond a very limited extent, should be planted in those places which are obnoxious to late frosts. In any situation we may exercise our judgment in regard to the aspect of our orchards. A southern slope would seem to attract our attention on account of the genial influences of a vernal sunshine; but in those latitudes where a mid-day sun affects the thawing of the surface during the winter, great injury will often ensue with the sharp frosts of the following night. This thawing and freezing will be attended with disastrous effects, and the worst aspect for an orchard will be the southern and southwestern, whereas the northern and the northeastly slopes will be the most happily situated, to avoid, as much as possible, the bad effects of a winter's sunshine. This is illustrated by the observations of every one of you, and you are also well aware of the immense value of even a partial shading of plants by a slight screen.

You need not be informed further as to the soil and the preparation for the orchard than, merely in general terms, to be advised to till the ground well before planting. In a small way and for a few pets the land may be trenched, but for general tree-planting, upon a large scale, the plow alone will be sufficient. Drainage of the soil is highly advantageous, and will be absolutely necessary to success in many portions of the country. Where this improvement is not attainable, *surface* drainage may be effected by plowing the soil in the narrow lands or beds, and planting the trees upon the ridges thus thrown up. In some places, where moisture abounds and where a desire exists to cultivate fruits, raised stations have been made for the trees.

A very simple method for planting trees has been adopted in some parts of the country, which may be named in this place: After the land has been well prepared, the last plowing is done so as to throw the soil into lands of the same breadth or the distance between the rows, say 32 or 40 feet, according to the character of the trees to be planted. A large plow is then drawn through the dead furrows, opening them still more widely, and this is followed by the sub-soil plow, as deeply as possible. The field will then present the appearance of having been ditched transversely every two or three rods. At appropriate distances a light plow is then drawn across the field, at right angles, to the first deep furrows, and these intersections mark the stations for the trees, which may now be set with great rapidity and entire satisfaction. The great labor of digging holes is thus dispensed with and the process of planting is greatly accelerated.

The selection of varieties of fruits, to be planted in an orchard, affords a fine field for the exercise of the judgment, skill and knowledge of the orchardist. I had intended enlarging upon this topic, but find here, as in so many other points, that my *hearers* are my *teachers*, and it is unmeet that I should attempt even to suggest anything to them, and, therefore, refer you to your own lists of fruits. Before leaving this subject, however, the broad principle may be laid down that this selection must depend upon local causes connected with the locality, and upon the object of the orchard, and the character of the market to be supplied with the fruits.

In discussing the *treatment of the orchard*, we may assume that what is worth doing at all is worth doing *well*. Thorough cultivation will accelerate the growth and development of the young trees, and thus contribute to ultimate success. This kind of treatment, especially if accompanied by manuring, is, however, accompanied with danger. The too rapid growth of the tree, when prolonged into the autumn, will endanger the destruction of the sappy wood by frost, and in such situations and soils, some varieties will continue to grow enormously, but will not make a speedy return in fruit.

The opposite plan of *no culture* has been recommended by some orchardists. These contend that the occupation of the surface of the soil by grass not only checks the too great luxuriance of the trees, in certain soils, and thus conduces to their earlier productiveness, but that the matted coat of grass affords a most valuable mulching of the soil, protects from the effects of frost upon the roots, and, also, by encouraging the moles, furnishes, through the agency of these earth workers, a sufficient amount of culture to sustain the trees in good condition. Generally speaking, the intelligent fruit growers of the northwest can indicate the products of such orchards which they facetiously designate as *grass fed.* The finest specimens, here, as elsewhere, are produced in the best cultivated orchards.

A medium course is sometimes pursued in situations where the plow cannot be conveniently used. The ground immediately about the trees is turned over with the spade, and sometimes mulching is also used, but these processes can only be applied upon limited orchards. In general culture the application of lime and the occasional turning under of a crop of clover will contribute largely to the success of the growing and bearing trees.

I had intended to have offered some views upon trimming the orchard, and also upon the injurious effects of insects; but in consequence of my having found you so much better posted upon these topics than myself, I will beg to decline entering upon that branch of the subject, at the present time.

In conclusion, Mr. President and gentlemen, allow me most sincerely to thank you for the opportunity you have afforded me of renewing your acquaintance, and of again studying with you the beautiful fruits of your skill and labor in this our glorious land. While tracing the shades of variety in the productions of different localities, studying with you the varieties peculiarly adapted to the wide spread portions of the great northwestern region, new friendships of the most agreeable character have been formed, and old attachments to the men of my heart have been renewed and more firmly cemented. These circumstances are sufficient to repay one amply for the toilsome journey and the absence from the delights of the domestic hearth-stone, to which I shall return from this delightful meeting with increased admiration for the country, its products and its noble possessors.

Finally, through you my heartfelt thanks are tendered to this enlightened audience for the patience with which they have listened to a plain, practical man enouncing, in his homely way, some of the simple truths of nature, as they have unfolded themselves to his observation.

STATE NORMAL UNIVERSITY.

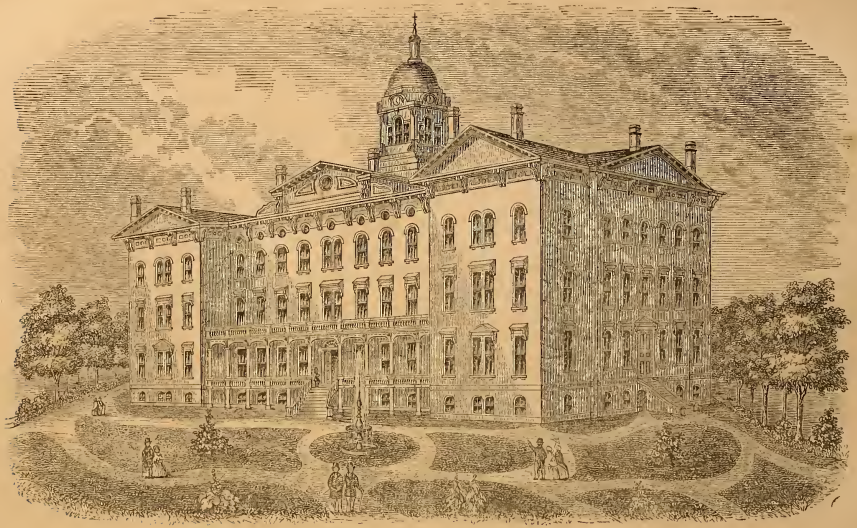
Bloomington, Ill., *May*, 1859.

S. Francis, Esq., *Cor. Sec. State Agricultural Society :*

Dear Sir—Your note, asking a brief statement of the objects, advantages, mode of admission to and means of support of the State Normal University, is before me.

Section fourth of the act establishing the University, declares, "That the object of said Normal University shall be *to qualify teachers for the common schools of this State*, by imparting instruction in the art of teaching in all branches of study which pertain to a common school education; in the elements of the natural sciences, including agricultural chemistry, animal and vegetable physiology; in the fundamental laws of the United States and of the State of Illinois, in regard to the rights and duties of citizens, and such other studies as the Board of Education may from time to time prescribe.

You will notice that full permission is granted to add to the list of studies. In view of this fact, one hundred acres of rolling prairie land, adjoining the immediate site of the University, have been secured, with the view of ultimately connecting with the institution a Model Farm, and giving special prominence to the sciences which underlie the chief pursuit of the people of Illinois. But for the present, the general object set forth in the act, namely, to qualify teachers for the common schools of Illinois, seems to demand the whole force of the institution. While there are many accomplished teachers in the State whose learning and genius enable them to command respect, and whose devotion to the noblest of all callings, no sneer can weaken, or divert, there are more whose ignorance and stupidity have enabled them to reduce the word "*teacher*" to a synonym for "*pedagogue*," and to persuade the people to think disparagingly of the calling and those who engage in it. I myself witnessed a verification of this fact not many months since in the State Senate. The honorable Senator from Macon objected to the passage of a certain act because it would annul or delay the fulfillment of many hundreds of contracts with teachers. As the point was stated, a slight flush passed the faces



STATE NORMAL UNIVERSITY, BLOOMINGTON, ILLINOIS.

[Face page 398.

of the twenty-five. True, the smile was scarcely perceptible and instantly surpressed, but not till it had told its story. People greet teachers *patronizingly*—not as equals—not with that candid recognition which is vouchsafed to ministers, or doctors, or even lawyers. And yet teachers are just as much respected as they deserve to be. The aggregate judgments of a people in regard to any man or set of men are correct. To avert, so far as may be, the evil consequences of this state of things, while it must last, and above all, to put an end to it, the Normal University was created. It is a public State recognition of the dignity of the common school teacher, and its object is to elevate the standard of acquirement and ability of those who shall be suffered to mould the characters of the future citizens of this great State.

As Illinois is pre-eminently agricultural, the course of study is so arranged as to give those sciences which underlie agriculture special prominence, after the common branches. The Board of Education aim to make the instruction of the institution so thorough and excellent that young men and women, with high aspirations and a laudable ambition to serve the State honorably as instructors, will eagerly seek to obtain a "State Scholarship" and come here to be educated.

The course of study, requiring three years for completion, consists—

Of the thorough mastery of the elementary or common school branches, including teaching and drill exercises.

Of lectures on education and educational systems, of the theory and practice of teaching, school discipline, the school laws of Illinois, and physical education.

Of a course in the higher English and mathematical studies and the natural sciences, with lectures.

Of so much of the Latin and German languages as shall be deemed necessary to the full understanding of our own.

Each county is entitled to gratuitous instruction for one student, and each representative district may also send, free, a number of students equal to the number of representatives in said district, making a total, at the time of the passage of the act, of one hundred and seventy five. This gratuity extends to tuition and text books, but does not include board or traveling expenses. Board costs $2 50 per week, exclusive of wood and washing.

The following is the mode prescribed by law for obtaining admission to the school:

"The school commissioner in each county shall receive and register the names of all applicants for admission to said Normal University, and shall present the same to the county court; or, in counties acting under township organization, to the board of supervisors; which said county court or board of supervisors, as the case may be, shall, together with the school commissioner, examine all applicants so presented in such manner as the Board of Education may direct, and from the number of such as shall be found to possess the requisite qualifications, such pupils shall be selected by lot; and in representative districts composed of more than one county the school commissioner and county judge, or the school commissioner and chairman of the board of supervisors in counties acting under township organization, as the case may be, of the several counties composing such representative dis-

tricts, shall meet at the clerk's office of the county court of the oldest county, and from the applicants so presented to the county court or board of supervisors of the several counties represented, and found to possess the requisite qualifications, shall select by lot the number of pupils to which said district is entitled. The Board of Education shall have discretionary power, if any candidate does not sign and file with the Secretary of the Board a declaration that he or she will teach in the public schools within the State in case that engagements can be secured by reasonable efforts, to require such candidate to provide for the payment of such fees for tuition as the Board may prescribe."

It will be seen that the county school commissioner and county judge or board of supervisors, as the case may be, have the appointing power, and that applications for "State Scholarships" must be made to the school commissioner of the county where the applicant resides.

The requirements for obtaining a "State Scholarship" are four.

First—The applicant must be, if a male, not less than 17, and if a female, not less than 16 years of age.

Second—He (or she) must produce a certificate of good moral character, signed by some responsible person.

Third—He (or she) must sign a declaration of his (or her) intention to devote himself (or herself) to school teaching in this State.

Fourth—He (or she) must pass a satisfactory examination, before the proper officers, in reading, spelling, writing, arithmetic, geography, and the elements of English grammar.

The *form* of the "declaration" of intention to teach may be of interest and I will insert it:

"I hereby declare my intention to become a teacher in the schools of this State; and agree, that for three years after leaving the University, I will report in writing to the Principal thereof, where I have been, and in what employed."

Students may be admitted at the beginning of any term, but not for a less time than one year or forty weeks. The first term begins Monday, September 12; the second term begins Monday, January 2d; and the third term begins Monday, April 9th.

I can best give you an idea of the students now in attendance here by an extract from my report to the Board, at the close of last fall term:

"Forty-nine of the students in attendance the present term are teachers of more or less experience, some having taught fifty-seven months, and no one less than two.

"Forty-two rely wholly on themselves for support; nine in part; and the remaining forty-seven have their bills paid by parents or friends.

"Of the parents and guardians, fifty-five are farmers; seven merchants; seven physicians; five mechanics; three agents; two clergymen; two lawyers; one civil engineer; one artist; one teacher.

"You will not fail to notice three significant facts in the foregoing statement: First, one-half of the students have already had experience in teaching. Second, nearly as many are compelled to look to themselves for the means to obtain an education. Third, the farmers are nearly double all other classes of parents and guardians."

The interest on the College and Seminary funds, amounting to nearly ten thousand dollars annually, ($9,754 74-100) is appropriated for the support of the institution. The Board of Education, who have the supervision of the University, consists of fifteen men, appointed by the Governor, by the advice and consent of the Senate. They hold their office six years, but are so arranged that five go out of office every two years:

Members whose Term ends February 18th, 1861.

GEORGE BUNSEN.....Belleville.
JOHN J. GILLESPIE.....S'te Marie.
C. E. HOVEY.....Bloomington.
GEO. P. REX.....Perry.
DANIEL WILKINS.....Bloomington.
NEWTON BATEMAN, *ex officio* a member and secretary.

Members whose Term ends February 18th, 1863.

C. B. DENIO.....Galena.
S. W. MOULTON.....Shelbyville.
A. R. SHANNON.....Carmi.
WESLEY SLOAN.....Golconda.
W. H. WELLS.....Chicago.

Members whose Term ends February 18th, 1865.

JOEL S. POST.....Decatur.
W. H. POWELL.....Springfield.
PERKINS BOSS.....Chicago.
SIMEON WRIGHT.....Illinois.

The Board of Instruction consists at present of

C. E. HOVEY, Instructor in the Theory and Art of Teaching.
IRA MOORE, Instructor in Mathematics.
SAMUEL WILLARD, Instructor in Languages.
E. C. HEWETT, Instructor in Geography, &c.
C. M. CADY, Instructor in Vocal Music.
E. R. ROE, Lecturer on Chemistry and Physiology.
L. P. CLOVER, Instructor in Drawing.
Miss F. A. PETERSON, Assistant Pupil Teacher.
Miss MARY M. BROOKS, Principal and Instructor in the Model School.

A large edifice is now being erected, for the use of the school, in the town of Normal, two miles north of the city of Bloomington, at an expense of eighty-five thousand dollars.

In devising inside plans for the University edifice, it was necessary to determine, in advance, the principle on which the school should be organized.

Three systems were considered, which may be distinguished by the terms College, Graded and Lancasterian. Should the College plan be adopted, then a chapel and class-rooms, *no matter whether adjacent or not*, would alone be required. If the Graded system prevailed, separate rooms for each teacher, with study-desks and all the appurtenances of an independent school, would be necessary. The Lancasterian plan would require a large assembly or study with adjacent class-rooms.

It was evident, on reflection, that the College plan would not do, and just as evident that the Graded plan was best adapted to the Model School, while the Lancasterian possessed some advantages for the Normal. It was, therefore, determined to combine the two, and to construct a more complete edifice than any now existing on this continent for a similar purpose. It was necessary to provide for the Normal School, the Model School, the Janitor, a Library, a Gallery of Fine Arts, a Museum of Natural History, and for such other adjuncts as might aid the general purpose of the University.

Basement Story.—This story is mainly above ground. Here is the janitor's house, consisting of a parlor, kitchen, cellar, three bed rooms, etc., a storage room, a laboratory, a chemical lecture

room, boiler or furnace rooms, boys' and girls' play rooms for the Model School, to be used in stormy weather, (32 ft. 6 in. by 48 ft. 4 in.) corridors and stairways.

First Story.—This story is 15 feet high in the clear, and contains the reception room, Principal's room, teachers' rooms, text book and apparatus room, wardrobes and four Model School rooms, two of which are 32 feet square and two 25 ft. 6 in. by 37 ft. 6 in. These rooms are intended for a Primary, an Intermediate, a Grammar and a High School, and will accommodate fifty pupils each. Students enter the building at the east and west ends, and visitors at the south front. The first floor is reached by four flights of stone steps.

Second Story.—Here is the Normal School. In the centre is placed the assembly room, sufficiently ample to seat 300 students. On either side of it are four large recitation rooms, and at one end are two of smaller dimensions, making ten in all. These rooms have been so arranged that 300 students can pass from the assembly room to the class rooms, or *vice versa*, in two minutes' time, and without at all interfering with each other. This story is 16 feet high in the clear.

Third Story.—In this story, 20 feet high in the clear, is located Normal Hall, large enough to hold a thousand people. On one side of it is the Museum of Natural History and the Library; on the other, the Gallery of Fine Arts, the drawing room and the ante-room for the Hall. This story is reached by four broad stairways, as is also the second story, affording the amplest means of ingress and egress. I regret that I have not obtained from the architect, G. P. Randall, of Chicago, some account of the style of architecture for the edifice, but it did not occur to me till it was too late.

The building is so planned that it may be heated by stoves, furnaces or steam.

Truly yours,

CHARLES E. HOVEY,

Principal State Normal University.

SOILS OF KENTUCKY AND ILLINOIS.

REPORT OF D. D. OWEN, GEOLOGIST OF KENTUCKY.

In the winter of 1856–7, Dr. D. D. Owen, Geologist of the State of Kentucky, made a report to the legislature of that state, which contains some matters in which the people of Illinois are deeply interested.

The following passages are extracted from that report:

[EXTRACT.]

"The Illinois soil analyzed by Dr. Owen was taken from the prairie on the Mississippi, in Illinois, a few miles east of Keokuk." The following is the result of the analysis of this soil:

"Organic and volatile matter,	9.050
Alumina,	2.400
Oxide of iron,	2.350
Carbonate of iron	.890
Magnesia,	.526
Phosphoric acid,	.175
Sulphuric acid, not estimated.	
Potash,	.197
Soda,	.100
Sand and insoluble silicates,	84.470
	100.163"

Dr. Peter, Assistant Geologist, in remarking upon this analysis, and which remarks are embraced in the report, says:

"Notwithstanding the luxuriance of the growth of the first crops on the prairie soil, occasioned partly by the large amount of available nourishing matter afforded by the decay of the thick sod, it is evident from the above analysis that, taking into consideration durability as well as immediate fertility, as ascertained by the chemical analysis of the soil itself, apart from the sod, there are many of our Kentucky soils which take the second rank, when compared with those of the blue grass region, which yet are fully equal to this prairie soil.

"Compared with the first rate soils of Kentucky, that of the prairies contain a much smaller proportion of alumina and oxide of iron, as well as lime, magnesia, phosphoric acid and alkalies. It contains a much larger proportion of fine sand, and doubtless a much larger proportion of coarser sand, than our best soils, and, therefore, while its large quantity of organic matters is held in the soil with a small force of attraction, because of the large proportion which the sand and silica bears to the alumina and oxide of iron; and hence they are readily soluble and immediately available in the production of luxuriant crops; these very circumstances will cause its more speedy exhaustion; and when the accumulated store of organic matter has been consumed by thriftless husbandry, this soil cannot rank beyond a second rate position.

"By a comparison of the constituents of this Illinois prairie soil with the average soils of Kentucky,—for example with [a] of the following table, which is an upland soil of Franklin county, waters of Benson, near Hardinsville, and [b] a sub-carboniferous soil of the Barren

limestone formation, Barren county, we perceive that these Kentucky soils, are as a whole, no ways inferior:

	[a]	[b]
"Organic and volatile matter,	9.133	5.200
Alumina only in [b], alumina, including oxide of iron and manganese, [b]	3.100	8.460
Oxide of iron,		2.206
Carbonate of lime,	316	366
Carbonate of magnesia in [a], magnesia alone in [b],	517	205
Brown oxide of manganese,		234
Phosphoric acid,	248	159
Sulphuric acid,	068	
Potash,	173	197
Soda,	049	090
Sand and insoluble silicates,	80.754	87.686
Loss in [a], loss and sulphuric acid in [b],	647	197
	100.000	100.000

"The Franklin county soil is even rather richer in organic and volatile matter; both are richer in argillaceous matter; the Franklin county soil is considerably richer in phosphoric acid, and the Barren county soil is almost equal to it, and contains the same amount of alkalies.

"If we compare the Illinois soil with the best Kentucky soils, we find that there would require to be added to the Illinois soil, for each acre, to make it equal in the amount of fertilizers for only six inches in depth:

107,236 pounds of ferruginous clay.
20,569 " of limestone.
1,881 " of phosphoric acid, or
3,802 " of leached ashes.
392 " of soda, or
836 " of common salt.

"It is true that the Illinois soil contains 1.28 per cent. organic matter, which would contribute to produce heavy crops for the first few years, but the above inorganic constituents are the true elements of permanent productiveness, and the Illinois soil, with 84.47 per cent. of sand insoluble silicates, must of necessity be far sooner exhausted than the more retentive argillo-calcareous soil of the blue grass regions of Central Kentucky.

"The rich black silicious soils of the West, are, indeed, wonderfully productive at first, for the reason above stated, but they never can have that permanent productiveness of the best argillo-calcareous soils of Kentucky, cultivated with any degree of judgment.

"Let not, then, the Kentucky farmer, without due consideration, leave the home of his nativity in the hopes of finding in the far West, land more productive than his own. Let him rather seek to gain an insight into the qualities of his soil, and adopt a frugal method of husbanding the strength of his new land, and renovating the consumed ingredients of his old.

DAVID DALE OWEN,
State Geologist."

The report above noticed having been placed in the hands of the Corresponding Secretary, and believing the analysis of the soil of Illinois and the comments of Dr. Peter on the same, indorsed as they were by the distinguished Geologist of Kentucky, calculated to do a serious injury to our State, in the opinions of those who might desire to migrate hither,—and desiring, if right and just, to correct the impressions thus sought to be imposed on the emigrating portion of the people of Kentucky and other states, the following communication was presented to Dr. J. G. Norwood, Geologist of this State:

ILLINOIS STATE AGRICULTURAL SOCIETY,

OFFICE CORRESPONDING SECRETARY,
Springfield, March 17th, 1857.

DR. J. G. NORWOOD, *State Geologist:*

DEAR SIR—The "Commonwealth," a paper published at Frankfort, Kentucky, and dated the 11th of February last, contains a "Geological Report in relation to the soils of Kentucky," by D. D. Owen, State Geologist. A considerable part of that report is devoted to a comparison of soils of Kentucky with a specimen of soil, said to have been taken from "an Illinois prairie, collected by Dr. Peter, in 1855, opposite Keokuk, a few miles back from the Mississippi river, from the newly up-turned prairie sod."

It is unnecessary to copy that portion of the report to which reference is now made, because the whole document is herewith transmitted to you. The *effect* of the report, in regard to the soils of Illinois, is, manifestly, to depreciate them, by the analysis of a single specimen, and the purpose of this depreciation is to prevent emigration from Kentucky to the prairies of Illinois, as will be more fully understood from the two following paragraphs, which conclude the report in question:

"The rich, fat, black *silicious* prairie soils of the west, are, indeed, wonderfully productive at first, for the reasons above stated; but they never can have that permanent productiveness of the best argillo-calcareous soils of Kentucky, cultivated with any degree of judgment.

"Let not then the Kentucky farmer, without due consideration, leave the home of his nativity in the hope of finding, in the far West, land more productive than his own. Let him seek rather to gain an insight into the qualities of his soil, and adopt a frugal method of husbanding the strength of his new land, and renovating the consumed ingredients of his old."

Your attention to the subject of this communication is desired, from the fact, that, in the course of your geological surveys, you have examined the soils of a large portion of this state, and your official statements whether the opinions expressed by Drs. Owen and Peter in regard to our soils, based upon the analysis of a single specimen, are to be regarded as authority. Respectfully, your ob't servant,

S. FRANCIS, *Corresponding Secretary*
Illinois State Agricultural Society.

Dr. Norwood, deeming that the experience of farmers, long residents of Illinois, would best answer the scientific and elaborated opinions of the Kentucky Geologists in regard to the permanent fertility of our soils, addressed the following circular to different well known individuals in various parts of the state:

ILLINOIS STATE GEOLOGICAL SURVEY,

OFFICE STATE GEOLOGIST,
Springfield, Illinois, March 18th, 1857.

SIR: The following communication has been received from the Corresponding Secretary of the Illinois State Agricultural Society:

ILLINOIS STATE AGRICULTURAL SOCIETY,

OFFICE OF THE CORRESPONDING SECRETARY,
Springfield, Illinois, March 17th, 1857.

DR. J. G. NORWOOD, *State Geologist of Illinois:*

DEAR SIR—The "Commonwealth," a paper published at Frankfort, Ky., and dated the 11th of February last, contains a "Geological Report in relation to the Soils of Kentucky," by D. D. Owen, State Geologist. A very considerable part of that report is devoted to a comparison of soi s of Kentucky with a specimen of soil said to have been taken from "an Illinois prairie, collected by Dr. Peter, in 1855, opposite Keokuk, a few miles back from the Mississippi river, from the newly up-turned prairie sod."

It is unnecessary to copy here that portion of the report to which reference is now made, because the whole document is herewith transmitted to you. The object of the report, in regard to the soils of Illinois, is, manifestly, to depreciate them by the analysis of a single specimen, and the purpose of this depreciation is to prevent emigration from Kentucky to the prairies of Illinois, as will be more fully understood from the two following paragraphs, which conclude the report in question:

"The rich, fat, black, SILICIOUS prairie soils of the west are indeed wonderfully productive at first, for the reason above stated; but they never can have that permanent productiveness of the best argillo-calcareous soils of Kentucky, cultivated with any degree of judgment.

"Let not, then, the Kentucky farmer, without due consideration, leave the home of his nativity in the hope of finding, in the far west, land more productive than his own. Let him rather seek to gain an insight into the qualities of his soil, and adopt a frugal method of husbanding the strength of his new land, and renovating the consumed ingredients of his old."

Your attention to the subject of this communication is desired, from the fact that, in the course of your geological surveys, you have examined the soils of a large portion of this state, and your official statements will show whether the opinions expressed by Drs. Owen and Peter, in regard to our soils, based upon the analysis of a single specimen, are to be regarded as authority. Respectfully, your obedient servant,

S. FRANCIS, *Corresponding Secretary*
Illinois State Agricultural Society.

Your attention is respectfully requested to this matter. The question is not, whether it is better for the farmer to manure his fields, and thus keep them always productive, but, are our natural soils of the prairie equal to the soils of our neighboring state, in their natural condition?

The following inquiries are deemed to be important; and, in order to enable me to answer them properly, it has been thought expedient to address as many of the old farmers as I know of, in relation to their farming experience.

Many other matters, of interest to the farmer, will, no doubt, occur to you, and any suggestions you can make will be thankfully received.

It is desirable that we should know these matters at the earliest moment your convenience will admit of.

Please reply to the questions, so far as your knowledge and experience will enable you to do so.

QUESTIONS.

1. In what county do you reside?
2. How long has the land you occupy been under cultivation?
3. How many crops have you taken from it, without manure?
4. Can a good crop be grown upon it now, without manure?
5. What have you to say in regard to the lasting quality of the fertility of your soil?
6. Do you believe, from your own experience, that the prairie soils of Illinois are equal or inferior to those of other states, so far as productiveness is concerned, for a series of years, without manure?
7. Do you believe our prairie soil will grow corn, for a series of years, without manure?

As I said before, anything that occurs to you, you will please add to the list of questions.

J. G. NORWOOD, *State Geologist.*

The replies to this circular were numerous. Many of them follow. More would have been published, if deemed at all necessary. The people of Illinois, after examining the statements made by many of their best farmers, residing in every part of the state, will be willing to "rest their case."

We are gratified, also, in thus being enabled to present to citizens of other states undeniable testimony in relation to the value and permanent fertility of Illinois soils.

ILLINOIS SOILS—STATEMENTS OF FARMERS.

—

Rock Spring, O'Fallon Depot P. O.,
April 14, 1857.

Dr. J. G. Norwood, *State Geologist:*

Dear Sir: Your circular of the 18th of March, making inquiries about the capability of our prairie soils to produce a succession of crops, and especially maize or corn, came into my possession on the 26th of March. Being then extremely feeble from repeated attacks of illness, I was compelled to postpone an answer. Even now I am unable to look over the memoranda and documents preserved that would furnish collateral evidence of the correctness of the statement I send you.

At the very first of the discussion, I object against the mere chemical analysis of soils in settling the question of their certain and permanent productiveness on the same principle that I object against chemistry as the ultimate arbiter on the question of aliment, digestion, assimilation, nutrition and all other elementary principles in the animal economy. Chemistry analyzes and explains the nature and laws of matter in its inert state. It takes no note of the laws of physiology or that occult, mysterious thing called life, and its functions in animal and vegetable existence. This science has important uses, and also its limits, when applied to agriculture. But to rely on the science of chemistry as the sole and sure guide of the agriculturist, is preposterous, of which the comparison of Dr. Peter of the "argillo-calcareous soil" of Kentucky with the prairie soil of Illinois, taken from a vague locality, "opposite Keokuk, a few miles back from the Mississippi river," for corn growing, is proof direct.

In the county in which I reside we have the expermental facts of 150 years to offset the chemical analysis and speculations of Drs. Owen and Peter.

Either the soil of Dr. Peter was from the sand ridge, brought down by some of the great floods from the abraded sand stone of the Upper Mississippi (for he denominates it "silicious") or the laws of chemistry are contradicted by the laws of vegetative life.

But in reply to your inquiries in a general way: I reside in the county of St. Clair, eighteen miles from the Mississippi river, due east from St. Louis. I removed from Missouri in the month of March, 1821, and resided that year on a farm that was settled and improved about 1810. The season proved very unpropitious for corn, and yet I made a good crop, say forty bushels to the acre, on land that had been cultivated with corn, without change, for ten years in succession. I am not old enough yet to find out any material difference between our timbered and prairie soils, on the

uplands of this county, in the production of crops, after many years of successful cultivation.

A portion of my old farm at Rock Spring, two and a half miles north of the farm I cultivated in 1821, was first cultivated in corn in 1822. I settled on a tract of "barrens," so called from the timber being stunted, shrubby and scattering, with patches of prairie intermingled with patches of underbrush, of oak and hickory, growing from grub roots. On such tracts of new country the autumnal fires contend with the annual growth, and partially or wholly kill the young timber, until settlements are made and the prairie grass killed out.

Being, like all my neighbors, unable to fence, break up and cultivate new ground to the extent desirable with every farmer, I had to plant corn, for many years in succession, in the same field. The supposition that by such process the rich soil would be soon exhausted, gave us no uneasiness, for it was a trifling matter to remove our fences and make a new corn field, as some did. Congress land, in great profusion, at $1 25 per acre, adjoined nearly every farm, and from 1820 to 1835 we had no fear of speculators annoying us. Very little wheat and but occasional crops of oats were grown in this and the adjoining counties. Corn was the staple commodity of agriculture, and grown on the same ground for many years in succession.

In this part of the state the prairies lying near the timber were first cultivated. Very seldom would a settler make his pitch into the interior of a prairie. The same policy of successive crops of corn was pursued on these prairie farms. No difference in the character and quality of the soil was discovered in the farms near the timber and those made subsequently in the interior of large prairies. The destruction of the peculiar grass of the prairies (poa pratensis) by the feeding of stock in the summer, by the growth of hazel patches, shrubs, brushwood and finally timber; and, by the introduction of the Kentucky blue grass, has destroyed the tough, adhesive sward of our prairies that yet remain such, and modified, but not essentially changed, the character of our prairie soils.

My farm at Rock Spring was badly managed for several years. Absence from home a large proportion of my time in my professional duties, for more than twenty years, compelled me to depend on hired men, who had no skill or training as agriculturists, or on annual "croppers," who were accustomed to skim over the ground with the "bar-share" plow, or on my sons in boyhood. The surface in barrens is more undulating than in prairies, and while it drains off the water from excessive rains rapidly, it also has its soil washed away where the surface slopes or small ravines exist.

All these circumstances were unfavorable to the successive growth of several crops, and especially corn. Then these barrens had a thinner and lighter soil, at first, than the soil of the prairies

in this part of the State. I have used very little manure, except on meadow land; and, in favorable seasons, I have mowed and cured from two to three and a half tons of hay (timothy and red top) to the acre, by measurement and weight. I have repeatedly exterminated the sour dock, when it has made inroads into my meadow. An industrious laborer, with a sharp grubbing hoe, by cutting off each plant an inch or two below the surface and letting the hot June sun pour its scorching rays on the bleeding stump, need not give himself further trouble with this noxious weed. This operation should be performed while the weed was in blossom.

My farm was brought under cultivation at successive periods from 1822 to 1845, which then included about sixty acres of land in cultivation. My oldest field, of ten acres, was left to grow up in grass, without seeding, after the harvest of 1842, and it was broken up again and sown to wheat in 1844. The soil had been resuscitated, and the crop of 1845 exceeded twenty bushels to the acre—an average harvest that season. Another portion of a field of mine, measuring nine acres, was cultivated in 1825, and every year after run to corn, wheat or oats; the corn repeatedly three years in succession, with crops ranging from 35 to 50 bushels to the acre. This field had been skimmed over with the bar-share plow, of "croppers," till, in 1845, it did not produce ten bushels of wheat to the acre. In the spring of 1846, on my return from Philadelphia, after an absence of seventeen months, I found my sons had sown this field to oats. The crop was a good one. After the stock had used up the scattering stalks of oats, and eaten the fresh grass, I instructed my sons how to break up the oat field for wheat. To a large diamond plow (an invention of this neighborhood) they attached the fore wheels of a farm wagon, with a short axle and old cart tongue, drawn by two stout yoke of oxen. The plow was put in six inches deeper than ever a plow ran in that field before, and turned up the "argillo-calcareous" earth from beneath, and there is enough left below to supply the same field for a century to come. The result was a fine crop of wheat in 1847, not less than twenty-five bushels to the acre.

My fields, when properly cultivated, and where the soil has not been washed away by excessive rains, will produce as much corn as they did thirty years by-gone. My opinion has long been formed, that where our Illinois soils are properly cultivated, by a rotation of crops, deep plowing, sub-soiling and plowing under all the corn stalks, stubble and weeds, whether on land originally covered with timber or on prairies, it will last forever. The great chemical laboratory of Almighty God, in the atmosphere and on the surface of the earth, will keep our prairie soil in order, if man will do his duty in cultivation.

The general method of cultivation, till within a few years, has been unfavorable to deciding fairly the capability of our soil for a succession of crops. Our pioneer farmers raked into windrows and burnt all their corn stalks before spring plowing. Wheat and oat

stubble were also burnt over, and the prolific crop of weeds was frequently cut, dried and burned. The soils in this portion of Illinois not only need "humics," for the successful growth of cereals, but the earth should be kept loose with these articles in an undecomposed state, else, in a wet season, the clayey soil will run together like melted lead, and when the drought comes it bakes.

The French, who settled the villages on the American Bottom, about the beginning of the last century, made "common fields" for cultivation. Each owner cultivated his separate plateau, but all under a common fence. They raised, for successive generations, a small kind of white flint corn, and gathered from 25 to 35 bushels per acre, though no one recollects how long they cultivated this variety of corn on the same plat successively. More than thirty years since I inquired of an intelligent and aged Frenchman how long corn had been raised each year on the land he was then working, but he could give me nothing definite. He remembered that his grandfather raised corn on that plateau when he was a small boy.

American immigrants came into the present counties of Randolph and Monroe nearly every year from 1781 to 1800. They commenced making farms on the prairies and about the skirts of timber on the upland of Monroe county, near the present site of Waterloo, before 1790. Farms in that locality have been in cultivation ever since, and we hear of no failure of crops. The first American settlers came to the uplands of St. Clair county about the commencement of the present century. Capt. Joseph Ogle brought his family from Western Virginia to the Illinois country, in 1785. He and his three sons settled on the north side of a prairie, and long known as Ogle's prairie. Each made a farm and cultivated it while life lasted. Corn was their principal, though not exclusive crop; for they raised wheat for domestic purposes and manufactured some flour for the St. Louis market. They, and some other old settlers I shall mention, when preparing for a crop of wheat, threw open the field from which they had gathered corn the preceding autumn to the inroads of all the horses, cattle and swine in the neighborhood to destroy the grass and weeds. After corn planting was over, the field was broken up and left till about the last of September, when it was plowed again and the seed wheat put in, either with light plowing or with the harrow. When cultivated in this mode, the yield was from 25 to 35 bushels. Our wheat in this county is regarded as defective if it does not weigh from 62 to 66 lbs. to the bushel. A common method of raising wheat, in early times, was to sow among the corn rows the latter part of August, and to cover it with a light plowing between the rows. By this mode the farmers get from ten to fifteen bushels per acre. Next crop would be corn again, with a successive wheat crop intermixed.

James Lemen, sr., brought his wife and two boys to the Illinois country in 1786. He settled first in the American Bottom, and then in the prairie at New Design, (as the settlement was called, about four miles south of Waterloo.) His three eldest sons, Robert, Joseph and James, about fifty years since, settled, with their young families, on a prairie, which they rightly denominated "Richland." Their farms joined the north line of St. Clair county. The same soil makes the surface of all our prairies on an average of three feet deep that once existed between the American Bottom and the Kaskaskia river.

The Lemens' were among our most industrious and thrifty farmers. They made large farms and prepared their wheat ground after the method of the Ogles, and raised large crops of corn every year. No manure was ever hauled on their plow land. I think their corn crop for half a century would average, on the lowest estimate that I can honestly make, fifty bushels to the acre each year. Often have I seen seventy-five bushels, or, as Kentuckians reckon, fifteen barrels, gathered from each acre, after continuous cultivation for fifteen or twenty years.

An observing and intelligent gentleman, and an old farmer withal, has just given me a fact from Jersey county, where he resided in 1851. He boarded with a Mr. Landen, who settled on a prairie farm eighteen years previous. His corn field had been broken up from the prairie the season before he purchased it. It had produced successive crops of corn each year, and the nineteenth crop was then standing in the field, and was estimated by the owner and my informant at seventy-five bushels to the acre. This is no tale of romance about Illinois prairies.

I could give one hundred more individual proofs of the capability of the prairie soil of Illinois to last forever, under a correct system of cultivation.

I do not regret, in discussing your questions, the very unfavorable circumstances under which our experiments have been made. They add force to the evidence in our favor. I add one more fact :

Within sight of my residence is a field of sixteen acres, once a part of my farm, but now owned by my neighbor. It was first cultivated in 1840, and produced crops of corn, wheat and oats each successive year. Corn was repeatedly planted two years in succession. It now has the seventh crop of wheat on the ground in successive seasons. Each harvest has been a gain on the preceding one. The straw has been removed each year, and no manure added.

Though not in consecutive order, I think I have answered your inquiries to a sufficient extent.

If other old pioneer farmers will furnish you the results of their observations and experiments and those of their neighbors, you will be able to convince Kentucky emigrants to this state of the fallacy of the speculations of the distinguished Geologist of that state, predicated on the analysis of his "assistant," who obtained "silicious

soil" (from some sand ridge) in 1855, "opposite Keokuk" and "a few miles back from the Mississippi river"—"from the newly upturned prairie."

Respectfully yours, JOHN M. PECK.

QUINCY, ADAMS COUNTY, ILL., *April 2d*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Yours of the 18th ult. was duly received, and I proceed to answer, as best I can, such of your questions as relate to subjects within the scope of my experience.

I reside in Adams county, about two miles from the city of Quincy.

The land I occupy, or at least a part of it, has been under cultivation for twenty-five years. That portion of the land that has been under constant cultivation has never been manured at all; and a part of this has yielded for the two past years from twenty five to thirty bushels of wheat per acre; and I have no doubt that land lying in such a position as to protect it from wash, and treated to a rotation of crops may be kept in constant cultivation without ever becoming impoverished or exhausted.

I do not think the soils of Illinois *equal* only but *superior* to those of any other state, with the soils of which I am acquainted, both for abundance of yield, and continued productiveness, *without manure.*

As to your seventh question, my experience justifies me in answering it most decidedly in the affirmative I know of land being planted with corn for seven years in succession, and harvested without any apparent diminution of crop.

I am respectfully and truly yours,

J. P. ROBBINS.

SODORUS, CHAMPAIGN CO., *April 19th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I have had no experience in actually cultivating the soil in Illinois, though I was raised a farmer in Ohio and followed the business of agriculture there, till I came to this State, four years ago.

I now reside in Champaign county, on a new farm.

Since I came to this state I have noticed many farms and farmers, in this, and also in Coles county.

In 1855 I bought part of a field of corn raised on the farm of Henry Sodorus, and averaged it at sixty bushels to the acre. I think, if any thing, that this was below the real quantity. Mr. Sodorus says that it is twenty six years since that field was put in cultivation, and has raised at least twenty four crops of corn. I do

not see but it raises about as good corn now as that which has been cultivated but three or four years.

He also has another field that was put in cultivation before, which has been in grass for some years. In 1855 it produced a heavy crop of hay. Last year it was light, owing to the extreme drought. I know of a number of farms in Coles county that have been cultivated in corn from fifteen to thirty years, and in ordinary seasons yield from fifty to seventy bushels per acre without any manure.

I believe, from my observation, I have never known any soil (except perhaps river bottom,) that will bear more cultivation and produce good crops, than the Prairie soil of Illinois.

Yours respectfully,
J. MERRITT.

CHARLESTON, COLES CO., *April 1st*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I herewith hand you my answers to your inquiries of the 18th ultimo, viz:

My present place of residence is Coles county, where I have resided for fourteen years, and cultivated my land for that time.

I have taken fourteen crops from it during that time, and a good crop can now be raised without manure.

The fertility of the soil here diminishes very slowly, and my opinion is, that for a series of years, without manure, it is far superior to the soil in Harrison county, Kentucky, (where I was raised.)

I raised, and had raised, eleven crops of corn in succession, on a piece of high rolling prairie land, on my farm. The last one with ordinary cultivation yielded me sixty bushels per acre.

The land was put in cultivation in 1842, and the crop mentioned was raised in 1853. Since then, the land has been rested with small grain. No manure used.

I am of the opinion that our prairie soils will grow corn for a series of years without manure.

Very respectfully,
THOMAS G. CHAMBERS.

LEYDEN, COOK CO., ILL., *April 8th* 1857.

DR. J. G. NORWOOD:

DEAR SIR—In reply to your inquiry in relation to the soil of Illinois *vs.* Kentucky, as appended to your circular, I would respectfully submit to you a few remarks.

That the soil of Kentucky is rich in the elements that constitute a valuable and fertile country, there can be no doubt; and her farmers may well feel proud of its intrinsic worth, when taken in connection with her fine climate and commanding geographical po-

sition. It appears to us there must be some hidden mystery in this matter that has prompted her State officers to travel out of the record to make a gratuitous attack upon the fertility of a sister State, and that too in a work that should not admit within its lids sentiments of the kind. If the social system of Kentucky is such that her citizens prefer a change—risking the rigors of a more northern clime, and the building up of new homes away from all they hold most dear—it would certainly be more proper to the occasion to make the correction at home, and leave no inducements whereby they would have any desire to wander off into strange lands. Knowing the fine climate and rich soil of that State, it was for a long time a matter of surprise to us that so many of the best farmers of Kentucky were selling out old homes, long endeared to them, and settling in our Prairie State. The reason is now patent to the world, and requires no repetition here.

The specimen of soil referred to as having been analyzed, was not taken from this state, but from the state of Iowa; and any one conversant with the soil of the section alluded to, and of the character of the specimen itself, need not be told that it was not a fair specimen of the prairie soil either of Iowa or of this State. It is well known that the "up-turned prairie sod" is wanting in alumina (the base of clay,) and is too open in its texture by reason of vegetable fibres and excess of humus. Its analysis would show, as stated, a fat but not enduring soil. In the annual burning over of the prairie grass, the ashes become lixiviated by the first rains, and the free alkalies and phosphates sink into the soil below the "upturned prairie sod," and are found by the plow in the "argillo-calcareous" loam of the swelling prairie. It is well known that the fertility of a soil does not depend wholly upon its organic properties, but is influenced by its physical condition; its porosity, color, attraction for moisture, drainage and state of disintegration exert an influence on its value.

We have not been among the number that place full reliance upon either chemical or organic analyses of soils. We know too well the nice precision required to detect the various elements of a soil, and the patient manipulation requisite to arrive at even an approximate estimate of its value. Soils from some of the most barren heaths show the same elements of fertility as those of fertile fields, when analyzed by the same formula. Lime is used extensively in many places as the most valuable dressing for wheat, yet some of the most productive wheat lands contain but a trace of this substance, nor does any addition improve its fertility.

We have before us tables of analyses, both chemical and organic, of six specimens of prairie soil, made by Dr. Charles T. Jackson, of Massachusetts. These specimens all vary from each other, having been taken from different localities. In silica they range from 66 to 86 per cent.:

Lime—Carb. from	0.98	to 2.6	per cent.
Alumina,	3	to 6	"
Peroxide of Iron, from	2.5	to 8.64	"
Humus, from	3.36	to 5.34	"

This would show that such soils contain the elements for long continued cropping without manure, and to our personal knowledge the experiment has been pretty well tried for the past twenty years, without any apparent diminution of product, but where manure has been added the product has been increased by its use.

We have before us tables of analysis of soils by Sprengel, Davy, Berzelius, and others, which are interesting to the student but at the same time of little value to the practical farmer.

For a long time it was supposed that the soils of Virginia were inexhaustible; but a hundred years steady cropping dispelled this fallacy. It is a wise provision of nature that potash becomes fixed in the soil after getting out of the reach of the atmosphere. In that condition it is insoluble in water, and is only slowly disintegrated when exposed by the plow to air and frost. Had it been otherwise our soil might soon be wanting in the alkalies, without which to unite with silica a crop of wheat would not mature. Judging from the uniform large per centage of alumina, (the base of clay) lime and potash, with a fair average of silica and gravel, we must conclude that for a long series of cropping the prairie soil stands unrivaled: it is certain that no timbered lands, except alluvial river bottoms, can in any respect compare with them. It was necessary to disguise the facts and present them in such a way that the mass of readers would not see through the imposition; an "upturned prairie sod" taken from the west bank of the Mississippi in Iowa, was to serve the purpose of those political economists whereby they could disparage the rich prairies of this State, in which so many noble-hearted Kentuckians are now rearing their homes.

We have no doubt but that from the older portions of the State responses will come, which will show the ability that the prairie possesses in withstanding an exhausting course of culture, in many respects rivaling the famed soil of now worn-out Virginia.

The alluvial soil of Honigpolder in Holland, has been cropped with the small grains for seventy years, without any manure, yet this rich soil requires not only to be fallowed occasionally, but that successive layers of the soil be turned up for use. It is, therefore, useless to attempt to show that any soil is inexhaustible, by taking off the crops and making no return. From what we know of the elements of the soil in both States, it is certain that the prairies are the most enduring, and that the timber lands will first yield to exhaustion.

If we are to believe the agricultural writers of that State, we must come to the conclusion that the exhausting process is making rapid headway in deteriorating the value of estates; and especially is this true of the crops of tobacco and hemp, which crops have been steadily on the decrease per annum for the past decade. Farmers have been urged to improve their lands by judicious rotation and

the application of manure, and in many counties this is being effected. Admitting that the soil of this State is no more valuable than that of Kentucky, still the enterprising Kentuckian will prefer our State, from the fact of a more ready market, greater range of products, and cheaper labor. The last item we think will decide many to make this State their home, to say nothing of the dignity that here attaches to him who "earns his bread by the sweat of his brow."

Since we commenced farming in this State, we have been in the habit of applying manure, and with the most decided advantage. Nor do we think there is a single acre in the state but would well repay a liberal dressing for most crops, perhaps all except the small grains; and even these are more often benefited than many are willing to admit. To grow good crops of timothy and clover, manure is very essential. These, in time, when turned under, furnish an excellent top dressing.

No Kentuckian need fear exhausting the prairie soil if he will pursue a reasonable system of rotation of crops, and use his manure in a farmer-like way, that here he can stave off the evil day longer than there, but it will surely come sooner or later.

In the timber land of "Egypt" the soil is not as rich as the prairie, but the upland, forming as it does the water-shed of the Ohio and Mississippi rivers, the large quantity of ammonia that is constantly emanating from the bottom lands of these streams is carried by ascending moisture and deposited on this water-shed by the summer showers. This fact is of great value to that part of the State in aiding, by the laws of nature, to keep up its fertility.

The supply of potash comes from the large amount of disintegrated sandstone mixed in the soil. Lime is also found in this soil in abundance, as is also alumina.

Thus much have we said on the defensive; nor do we feel any disposition to carry the war across the river. Trusting in the unrivaled fertility of our soil, our ready access to the market of the world, our vast net-work of railroads, our free schools, free labor, and the untiring energy of our people, we can have no cause to fear the rivalry of our sister State, and all feelings of reproach are lost.

Many of our ablest statesmen, and very many of our best farmers, are from that State, while every day brings us an addition from the most enterprising class of farmers and capitalists; and though some of her narrow-minded politicians may set up a howl, yet the citizens of both States are so bound together by ties of consanguinity and fraternal feeling that they will not be alarmed by the analysis of an "upturned prairie sod," taken from the state of Iowa, as an illustration of the soil of the rich rolling prairies of our noble state.

M. L. DUNLAP.

CLARK COUNTY, *April* 2, 1857.

The following statements were communicated by Mr. W. G. Stephen of Marshall, Clark county:

Mr. J. Lockwood owns a tract of land that was bought by his father in 1816, plowed the year following, and which has been in cultivation ever since, with the exception of one season. During all this time not more than four or five crops of oats or wheat were put in; the remainder being invariably *corn*. This land has been rented most of the time, and badly farmed, but has averaged over forty-five bushels of corn to the acre, though never manured; and though last season was an unfavorable one for corn, the yield was forty bushels to the acre.

Mr. Gilbert Shaw owns a tract of land which was cultivated exclusively in corn from the year 1824 to 1842, making *seventeen successive crops of corn;* and which will average now, forty bushels per acre in a fair season.

Many of the farms on this prairie were entered about the same time, have been cultivated very much in the same manner, and with the same result.

Mr. J. C. Hillebert of Union Prairie, has a tract of land which was bought at the land sale in 1816, which has been owned by him since 1820, and been ploughed every year since 1817, and cultivated generally in corn, with one or two crops of oats, and four or five of wheat only, during that time. Last season the land produced over forty five bushels of corn per acre.

Many other farms on this prairie have been in cultivation since 1817, and generally in corn. They have never been manured, nor well farmed, nor ploughed more than four inches deep. A few begin to show signs of bad usage.

Mr. Thomas Haze, on Parker Prairie, owns a tract of land which was entered in 1830, cleared and put in cultivation in 1832, and raised nineteen crops of corn in succession, with an average of fifty bushels per acre. It produced last year over 40 bushels per acre, and has now (June 1857) a very heavy crop of wheat.

The farm of Charles Briggs, also in timber near the prairie, and a fair sample of other timber farms in the neighborhood, has been in cultivation twenty five years, with some rotation of crops, and has shown very decided *improvement* in fertility.

The farm of J. C. Robinson on Parker Prairie, with timber adjoining, has been cultivated for *twenty five years*, generally rented, badly farmed, no rotation of crops, never manured, and now averages fifty bushels of corn to the acre, without any visible falling off in the crops.

HUTSONVILLE, CRAWFORD CO., *April 13th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Yours of the 18th ultimo, is just received, and while I answer, I am apprehensive that my reply will not afford you as

much satisfaction as it might if I had had more experience in prairie farming. I have been cultivating the soil on this prairie but seven years.

I reside in Crawford county, and my farming land is all open prairie. Part of it is meadow, and has been improved for about fifteen years. During the first eight years it was said to have been cultivated in corn and oats. The last seven years it has been in tame grass, and grows better every year. Most of my present plough land has been under cultivation for seven years.

I have taken a crop from it each year and used no manure, except on my garden and a portion of my meadow. The seventh and last crop of corn on one lot of twenty acres, I think would have been equal to any that preceded it, had it not been for the extreme drought of last year.

I think I have found in no state, high, rolling land laid more fair for durability, and which would bear a succession of cultivated crops better than the prairies of this county. I believe the prairie soil of this county is equal to any land I have seen in any state, except for grass. There is not quite clay enough for good grazing land.

I know that our prairies will grow good crops of corn for seven years in succession without manure, and from the representations of some of my neighbors who are old settlers, much longer. On the farm of the late Mr. James Newlin, about one mile east of mine, on the same prairie, is a field which is said to have been brought under cultivation in 1815 or 1816, and has been tilled constantly ever since, and most of the time in corn. Some say that there have been over thirty crops of corn on it, and the balance of the time in wheat and oats. Mr. Wm. S. Newlin, told me to-day, that it yielded him fifty bushels of corn per acre last year, and that there never had been a cart load of manure or a handful of grass seed put on it since it was broken up, and that he had never thought of its being worn out or likely to become so. Indeed it is a common thing here for the old farmers to feed their stock in a grove, and build their stables on the bank of a stream or ravine, where the manure will wash off out of the way. I decidedly condemn such a practice, but when we say anything about it, the usual reply is, "we raise more now than we know what to do with, and what need of more."

In short, Dr., Mr. Owen's theory of the short lived character of Illinois prairie soil would be laughed at in this country. I might give you numerous instances where good crops of corn have been produced for twenty or thirty years in succession without manure, but this fact is so universally conceded by those acquainted with farming on the prairies of Illinois, that I think it needless. I hope that you will be able to place us in a proper light before the world, and we shall have no fears as to the result.

Very respectfully, yours,

SAMUEL PARK.

CLINTON, DEWITT COUNTY, *March 25th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Yours of the 18th inst. is received, and I will say in reply to your questions, that I have lived in the territory which is now DeWitt county, twenty six years, and on one farm.

Part of my farm has been in cultivation twenty five years, and has produced a good crop every year without manure—say forty five or fifty bushels per acre.

I have never cultivated any land that has the durability that the prairie land in Central Illinois has. The soil is from 12 to 20 inches deep and it is impossible to plough deep enough to reach the bottom. In fact, the prairie soil is well adapted to raise hemp, flax, and all kinds of vegetables that will grow in this latitude, and corn, wheat, oats and barley, with the best of the bottom land of Cumberland river, Kentucky.

I am, very respectfully, yours,

BENJAMIN LISENBY.

DEWITT COUNTY, ILL., *March 28th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—According to your request I will endeavor to answer your questions so far as I am able.

I live in DeWitt county, and the land I occupy has been in cultivation twenty one years.

I have taken twenty one crops from the above land without manure.

I can grow from sixty to seventy five bushels of corn per acre on the same ground yet, and wheat and oats in proportion, as well as all other grains common with farmers.

I have lived in Illinois thirty years—I have been raised on a farm, and have no knowledge of any prairie lands that will not grow grain equal to the above named crops; and I believe, by properly changing the crops, that the soil of Illinois will equal if not surpass any on the face of the globe, without manure.

I do believe that our prairie soil will grow as much corn per acre, and for as long a period, as any other in the United States, without manure.

I will add to the above statements, that our prairie soil well cultivated, will grow one hundred bushels of corn per acre, and forty bushels of wheat, and other grains accordingly.

Yours truly,

TILLMAN LANE.

WAPELLA, DEWITT COUNTY, *March 29th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Yours of the 18th inst. came to hand on the 26th, and I embrace this opportunity to answer your questions, as far as I am able, in regard to the soil of Illinois.

I live in DeWitt county, and have resided here for nineteen years.

My father died when I was fifteen years old, and as my older brothers had married and gone from home, I was left to carry on the farm for mother. As I had not the advice of a father, my plan has been to watch the best farmers of the county, and by experience and observation I have some knowledge of the business.

The first land of my improvement has been in cultivation nineteen years and never been manured. One piece has had fourteen crops of corn taken from it during that time, which yielded fifty bushels per acre last season, as bad as it was.

As to the lasting quality of the soil, I think it is far superior to any that I ever saw. It is deep, with a clay bottom, therefore will hold manure and wear well.

I was born in Hamilton county, Ohio, eighteen miles below Cincinnati, near the mouth of the Big Miami river, which is said to be "the garden of the United States," and am some acquainted with the products of Kentucky, along the Ohio bottom; also with the soil of Indiana and Illinois, and I believe the soil of the latter State is *superior* to that of either of the others, and am satisfied that a man can raise more grain on the soil of Illinois than he can in either of those States, with the same labor.

I will give you the products of twenty acres, seventeen rods, of land which was sown in wheat in 1855, and '56.

In 1855 the yield was *six hundred and eighty nine* bushels, which sold for $1.15 per bushel; making the whole amount realized $792.35.

In 1856, the yield was *six hundred and forty eight* bushels, which sold for 95c. per bushel; making the whole amount realized $615.60. Amount for two years, $1407.95.

To insure a good crop, old ground should be farmed well. If in *corn* plant early and till well; and the same may be said of small grain.

Yours with respect,

WALTER KARR.

DeWitt County, Ill., *March 31st*, 1857.

Dr. J. G. Norwood:

Dear Sir—I received by the last mail your circular, containing questions to which you wish me to reply so far as my knowledge and experience will enable me to do. To which I cheerfully respond.

I reside in the county of DeWitt, and my land has been in cultivation from five to twenty three years.

On some parts of my farm I have taken twenty three crops without any manure, other than the stubble and refuse parts of the crops which have been left to rot on the ground.

I can see but little if any diminution in the amount produced on

the acre now, and that produced twenty years ago. And I think that with proper care in planting and cultivation, I can raise as good crops on the oldest part of my farm as on that more recently put in cultivation.

By moving fences and changing the arrangement of my farm I have thrown together in the same field, land which has been in cultivation for twenty years and upwards, with that which has not been cultivated half that length of time. The crops on this field always present a uniform appearance whether of corn or wheat. There is no line of demarkation between the old and new ground.

In tracing the rows of corn through the field, you perceive no indications of barrenness, or that one part has been worn more than another; and yet no part of this field has had the benefit of manure.

In regard to the lasting qualities of the fertility of our soil, I do not pretend to say that it is inexhaustible. The continued dripping of water from the ocean, without any influx, would in time drain it to the bottom. So of our soil. The continual abstraction of its fertilizing qualities without any renovation, must in time exhaust the great fountain. But this generation will pass off the stage of action before the fertility of our prairies will be materially diminished, except on the most rolling situations, where it will be effected more by washing than by cultivation.

I have had no agricultural experience in any other State except that of my nativity, which is New York. As far as my experience goes, the prairies of Illinois are far superior to that State in productiveness without the aid of manure.

I cannot state exactly how many successive crops of corn I have raised from the same ground without manure, but quite a number I assure you. For until quite recently we raised nothing else; and as for manure, we never thought of using that. In conversation with one of my neighbors on this subject, he informed me that he had raised sixteen crops of corn on the same ground, in that number of years, and that the last crop yielded seventy five bushels per acre, and that he had never used a load of manure upon it. His uniform practice has been either to cut his corn, and haul it off, stalks and all, or else rake and burn the stalks in the spring, so that very little was returned to the soil to renew its fertility.

I would add that several consecutive crops of wheat may be grown from the same ground. Yet I believe the properties of soil necessary to the production of wheat, are less abundant than those required for the growth of corn.

Yours truly,

ORIN WAKEFIELD.

CLINTON, DEWITT COUNTY, *April 3d*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I will endeavor to give you some account of our soil, its durability, &c.

I reside in DeWitt county, eight miles west of Clinton. Some of the land I own has been in cultivation eighteen or twenty years.

I have taken thirteen crops of Indian corn in the same number of years. The first was in 1842 and the last in 1855, which were large, and yielded sixty-five bushels per acre, receiving only two plowings of two furrows to the acre.

I harvested a field of wheat, which was owned by one of my neighbors, that made an average of thirty-five bushels per acre. It was sown among corn, the stalks standing on it until spring, there being no extra pains taken in seeding it. It was merely plowed in with a small corn plow. The land had been in cultivation twenty years. I do believe that our land will produce good crops of wheat or corn for twenty years without the aid of manure.

My opinion is that the soil of this state is superior to the lands of Ohio and Indiana, both in regard to durability or productiveness. Where I am acquainted with the qualities of the soil in Ohio, it is nearly impossible to raise thirteen crops of corn in succession upon the same piece of land without manuring every three or four years or seeding it down with clover.

I can't say what effect manure would have on our land, never having seen the experiment tried, but think that it would not be out of place.

Our land is quite productive in grass. I have a meadow of twenty acres which has been mowed twelve years in succession. In the summer of '55 it yielded over two tons per acre. Last summer being so exceedingly dry, it was quite light, but bids fair to make a good yield the coming season.

I do believe that we have equally as good a grazing country as Kentucky. Blue grass grows here almost spontaneously as soon as the prairie grass is tramped out.

I know of wheat crops that have yielded, on an average, forty-two bushels to the acre, which were sown on the prairie sod.

Yours, &c.,

JOHN D. HUTCHIN.

CLINTON, DEWITT COUNTY, ILL., *April 5th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your note of the 18th ult. has been received, in which you inquire, "Are our natural prairie soils equal to the soils of our neighboring States in their natural condition?"

I live in DeWitt county, and the land I occupy has been in cultivation twenty years.

I have taken eighteen crops from it without manure.

A good crop can now be grown on it without manure.

I believe my land will continue its fertility for an indefinite period, without manure, by changing seeds or grasses.

I am clearly convinced from personal knowledge of the richest lands in Kentucky, Ohio, (and Indiana on the White river,) that the prairie soils of Illinois, are fully equal to any lands in either of those States, for productiveness for a series of years without manure.

My experience is, that prairie soil has grown *corn* for a series of years without manure, and I believe it will continue to do so.

Your obedient servant,

JOSEPH HOWARD.

DeWitt County, Ill., *April 13th*, 1857.

Dr. J. G. Norwood:

Dear Sir—Your communication has been received, and I will reply to your interrogatories to the best of my ability.

I reside in DeWitt County. My farm has been in cultivation twenty one years, and the same number of crops have been taken from the ground without manure.

I am of the opinion that it would produce from sixty to eighty bushels of corn, and from twenty to thirty of wheat at this time, without any compost; and as to the durability of the soil, I presume that it will equal any on the face of the globe.

I do not know of a farmer in this county that manures his lands, and all admit the durability and lasting fertility of the soil. An examination of statistics will prove its productiveness.

From my own knowledge of the prairie lands of Illinois, I would say that they are superior for a series of years, in productiveness without manure, to those of the other States.

Yours truly,

BENJAMIN HULL.

Wapella, DeWitt County, Ill.

Dr. J. G. Norwood:

Dear Sir—It is with pleasure that I write in answer to your questions.

I live in DeWitt county, and the land I occupy has been in cultivation twenty five years, and I have taken twenty crops off of the same land without manure. The last was as good as the first, indeed I do not think I could tell any difference.

I have not lived long enough in Illinois to say how long the soil will last. Some of my neighbors say that their land is getting better.

I believe from my own experience that the prairie soil of this State will produce corn for twenty years without manure, and *more* than land in any other State of the Union.

I have known in this State eight hundred and forty bushels of corn, raised on nine acres of ground after being in corn for twenty years, and this with ordinary tending, and without manure. This I *know* to be a fact, as I cultivated the land, and gathered and measured the grain.

Yours truly,

PETER CRUM.

WAPELLA, DE WITT COUNTY, *April 4th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I received your communication in due time, and now take the opportunity of answering.

I reside in De Witt county, and my land has been in cultivation twenty-five years.

I have taken twenty-five crops off of the land without manure, and a good crop can now be grown on it.

The last crop, which was the twenty-fifth, yielded fifty bushels of shelled corn to the acre. And last season was a poor one for corn.

I believe that my land will grow as much corn as it does now for twenty-five years more without manure.

I was born and raised in Kentucky, and lived there until I removed to this State. I believe, from my own experience, that the prairie soils of Illinois are far superior to the soils of Kentucky.

I am of the opinion that our prairie soils will grow *corn* for fifty years in succession, without manure, as I can see no difference, as far as productiveness is concerned, in my land for the last fifteen years. My neighbor, Abram Onstat, says that last year he raised, from land which he has had twenty-three crops of *corn* taken from it, seventy bushels of corn per acre.

I know that of oats I raised sixty bushels from land that has had twenty-four crops taken from it, and all without manure.

Yours respectfully,

SAMUEL SPENCER.

BLUFFDALE, GREENE CO., ILL., *April 10th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I received your circular and letter, two days since, and cordially thank the Rev. Dr. Peck, for inducing you to write.

It has long been known among men of science that the reputation of Daniel Dale Owen, as a reliable Geologist, has been somewhat overrated, yet I think that his decision, as quoted by Mr. Francis, assigning to the soil of Kentucky a superiority over that of Illinois, must have astonished every Kentuckian who has ever visited this State. I am glad that you and Mr. Francis do not permit so reckless an assault upon the character of our soil, and consequently upon the prosperity of our State, to go unrebuked.

In my reply to your printed *questions*, I will refer to them in their order in a general way.

I at present reside in Greene county, and have done so ever since 1820, and have annually taken a crop from the land since that date. No manure has ever been applied, and good crops are raised upon it yet. With a rotation of crops, we think the same ground can be cultivated every year for an indefinite period, without a sensible deterioration, either in the *quantity* or *quality* of the crop.

I believe from personal observation, that our prairie soils are not inferior in production, or *durability of production, without manure*, to the best soils of the West.

Corn, to my knowledge, has been raised successfully upon the same ground for a long series of years, without manure, and without any rotation of crops.

Respectfully,

JOHN RUSSELL.

CARROLLTON, GREENE COUNTY, *April 24th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your circular of the 18th inst. was duly received. I have submitted the questions therein propounded to some of our best farmers and those most experienced in the cultivation of the prairie soil of this county.

The following statement of *two farmers* may be taken as specimens of the answers that would be and are given by our farmers to the questions proposed—

1st. Mr. Wright occupies and cultivates a prairie farm of over two hundred acres. It has been in cultivation over thirty years. He has owned and cultivated it twenty-seven years. Twenty successive crops of corn have been raised upon the same ground without manure, and the yield has been from forty to one hundred bushels per acre, according to the season. He never expects to find upland soil of more lasting fertility.

2d. Mr. Rhodes has occupied and cultivated a prairie farm of over three hundred acres in this county for the last nineteen years. Part of it has been in cultivation, that is under the plow, for thirty-three years, from which successive crops have been taken for nineteen years, *to his own knowledge*, without any manure. Indeed, both of the above named farmers say that they have paid no attention to manuring their lands. They have only hauled out and carelessly scattered as it could most conveniently be done, manure that had accumulated about the barn and stables so as to be in the way. Statements similar to the foregoing are made by all the farmers, of the first quality of prairie lands in this county, with whom I have conversed.

One sentence in the report of "Mr. Owen, Geologist of Kentucky," is to me a surprising one: that in which the prairie soils of the west (referring, I suppose to the prairies of Illinois) are denominated "SILICIOUS." I do not doubt, indeed, I *know*, that there are *some* prairies of "silicious" soil. But I have not found such "rich," FAT and "black." As a general thing, our "*rich, fat, black prairie soils*" would be improved by the addition of a *little* more silex. Such is my humble opinion, founded on observation of the soil of the prairies in more than twenty counties in this State. Our farmers say of the soil of the prairies here, "rich enough, deep enough, strong enough,"—"a *little* more sand would make it lighter and less liable to run together and bake."

In haste, yours truly,

L. S. NORTON.

BLUFFDALE, GREENE COUNTY, ILL., *April 25th*, 1857.

DR. J. G. NORWOOD:

SIR—I received your letter of inquiry by the last mail, and hasten to reply. I will answer your questions according to the best of my recollection.

I now live in Greene county, where I have lived for the last thirty-five years.

I have never manured my land except when I cleared out my stables, and the quantity of compost thus obtained is small to put on a farm of one hundred and fifty acres. I have raised thirty five crops without manure.

I think that I have never yet raised *less* than fifty bushels of corn to the acre, sometimes more. I can raise good crops every year. I change from corn to wheat, or seed my fields with grass, but never think of top dressing with manure.

Six years ago I plowed twenty acres that was seeded with grass the preceding October and put in wheat. The land had been in cultivation twenty-nine years. When harvest came I cut all but about three-fourths of an acre which was lodged down. We will say that the whole number of acres harvested was nineteen and one-fourth. From this I threshed six hundred and twenty-one bushels of clean wheat. I still improve the same field, with alternate crops of wheat and corn, without manure. I believe lands here will produce good crops for fifty years by changing.

So far as my knowledge extends, I have never seen any land that will compare with the prairie soils of Illinois for fertility and productiveness. I will here say, that I have three times crossed the country to New England, in my own conveyance, and at a time when crops were standing on the ground, and nowhere did I see corn that would compare in quantity with corn in Illinois, in any of the States which I passed through.

For many years, since the first settlement of this country, I have raised corn, as it was the most profitable crop, for the only market

we had for wheat was St. Louis. In consequence of this our principal crop was corn. I tried for several years to raise oats, but when within a few days of harvesting they would almost always fall down, the weight of straw being so great. And it is only till recently that my crops of oats have stood to be harvested.

I showed your letter to Mr. Thaddeus Brace, in this county, near Carrollton, and asked him how long he thought he could raise corn on his farm without manure. His reply was, "*fifty years.*" He is a very good farmer. There is a farm on the south side of mine which for the last six years has produced as many crops of wheat in succession, and the last was a fair yield. This may be regarded as a good test of the strength and productiveness of the soil.

RICHARD ROBLEY.

PIONEER, GREENE COUNTY, *April 2d*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I will now endeavor to answer some of your inquiries.

I reside in Greene county, on the Illinois bottoms; have lived here thirty-one years last March.

The most of my land has been in cultivation from twenty-five to thirty years. For eight or ten of the first years it produced from seventy to ninety bushels of corn to the acre, without manure or rest. Since, my practice has been to change the crops from corn to small grain and plow in stubble, putting what manure I have on the same. My land has had no rest and now produces from sixty to seventy bushels to the acre. As to the lasting qualities of the soil, so far as I am acquainted, I do not believe there is its equal for productiveness and extent in the whole Mississippi Valley. I know of farms that have been cultivated for twenty-five or thirty years that now produce well without manure, and the stubble and stalks are always burned.

Yours with respect, truly,

DAVID WOOLEY.

BLUFFDALE, GREENE COUNTY, ILL., *May 14th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Yours of March is at hand, and to your questions I submit the following reply:

I reside in the county of Greene, on the western border of the prairie land lying along the Illinois river.

I have resided on my farm about twenty-eight years; was formerly a farmer in Addison county, Vermont.

The farm on which I reside has been under cultivation about thirty-seven years.

I have taken from one field of forty acres twenty-one crops of wheat and corn.

During the time I have owned my land I have never manured it, but seven years of the twenty-eight it was seeded to grass.

My crop of corn last year averaged about thirty-five or forty bushels per acre, and I am again planting it with corn. I have as good crops now as I had fifteen years ago. In fact, I do not see any difference in the productiveness of the soil on account of age. My only manure has been to *plow a little deeper*.

I have farmed in no other States but Vermont and Illinois, yet I have traveled over Ohio, Indiana and Iowa, with my attention especially directed to the soil and farming facilities, and I *know* that the prairies of Illinois are *equal* at least to *any* soil this side of the mountains, for their productiveness, either with or without manure. I have never seen their durability or productiveness surpassed, nor do I believe they can be in any part of the world.

I have taken seventeen *successive* crops of corn from one field, and the last was just as good as any that preceded it.

I KNOW that the soil of this prairie will produce corn without manure for twenty years, and the last crop will be as good as the first, and the Good Master knows how many more. I know of no reason why it will not produce *forty* successive crops of *good corn*, and *it is my candid opinion that it will do it.* All that is needed here is to plow deep. If my land gets to looking sickly I get my big plow and hitch on the stags and put it in deep to the beam, and the rich, fat, black soil will roll up, and there is all the manure you will ever need.

Respectfully and truly, yours,

STEPHEN SPENCER.

OQUAWKA, HENDERSON COUNTY, ILL., *April 1st*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Yours of March 18th, 1857, is before me, and in reply I will state, as follows:

For the last few years I have not been engaged in farming, and what I may say is not so much from actual experience, as general observation.

I was for eight years engaged as a dealer in produce in this (Henderson) county. I came to the county in 1835. The first lands cultivated in this county were broken up in 1829, and have been tilled ever since. Some of them, to my certain knowledge, have never been manured, and produced the last year, notwithstanding the severe drought, from fifty to sixty bushels of corn per acre.

I have lived in three different States, South Carolina, Ohio and Illinois, and have no hesitation in saying that the prairies of this region of the State will last twice as long and continue productive, as in either of the other States named.

I have traveled in every portion of the State of Kentucky, at all seasons of the year, and with the exception of the region around

Lexington, I have never seen any portion of the State that, in my opinion, would compare with the prairies of Illinois, either in fertility or durability, without manuring.

Yours truly,

W. D. HENDERSON.

MURPHYSBORO, JACKSON COUNTY, ILL., *April 3d*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I received your note this day, making certain inquiries and requesting answers.

I take pleasure in hunting up such information as I can gather.

I have had the good luck this day to meet with some of our oldest farmers, or rather their sons, who gave me the following answers. Daniel Worthen says:

"His land has been in cultivation forty-five years, and has had no manure on it, except clover, on a portion, one season, and on rest two seasons, in that period.

"A good average crop of corn of forty-five bushels to the acre can be raised, and even as much as fifty in a good year. The soil is supposed to have decreased in fertility about twenty-five per cent. in forty-five years.

"I know of fields which have been planted in corn constantly, for upwards of forty years, with the exception of two wheat crops, which last year yielded fifty bushels to the acre and no manure."

Peter Gill, who has been for a number of years associate county judge, is an old farmer, living on the Elk prairie, in the northeast corner of the county, says:

"His land has been under cultivation over twenty-five years—never has been manured—been nearly all the time in corn. It grows a very good crop without manure. After the first four or five years the prairie land does not deteriorate in quality. For a few years, while the roots and vegetation are decaying, it looses a little of its fertility, caused by the destruction of those fertilizing agents. But after that there does not appear to be any decrease so far as twenty-five years experience goes to show."

The foregoing answers are a good index to the opinions of our oldest farmers, for in the short time taken to make inquiries, I find that all I have had an opportunity to question agree.

I am having some soil selected from the oldest fields in different parts of the county, which I will forward you by express to Springfield.

Mr. Brown, who is an old resident, lives on the edge of the Big Hill, has made the following statement, which may be relied on with certainty, viz:

"Land cultivated since about 1815. Has been planted in corn every year since. A good average crop of corn can yet be raised on it, and an *average crop*, when any care is taken, is from sixty to seventy-five bushels per acre. More than one hundred bushels

per acre, *measured*, have been raised on it in a very good season. Has never received any manure, even by change of crops. The quality of the soil does not appear to decrease."

Messrs. Worthen, Gill and Brown are good citizens, responsible men, whose word can be relied on implicitly—all practical farmers and intelligent men.

Yours truly,

C. THOMAS.

LAWRENCE COUNTY, ILL., *April 6th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—In answer to your questions I can only say:

I reside in Lawrence county. The land I occupy has been in cultivation thirty-eight years, and as many crops have been taken from it without manure.

I think that the land I occupy will produce fifty bushels of corn or twenty-five bushels of wheat to the acre, and if the crops were changed alternately, would last for all time to come.

I do believe, from my own experience, that the prairie soils of Illinois are equal to those of other States so far as productiveness is concerned, for a series of years, without manure.

I am, very respectfully, your obedient servant,

J. McLEAN.

SUMNER, LAWRENCE COUNTY, ILL., *April 23d*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your letter of inquiry, bearing date March 18th, is received, and without any apology I proceed at once to answer your questions according to the best of my limited abilities.

I have lived in Lawrence county, my present home, for twenty-five years. The land I occupy has been cultivated for that period, and during that time twenty-five crops have been taken from the soil, and a good crop can now be raised without manure. My experience is, that level land retains its fertility much longer than that which is broken and hilly, and that proper cultivation, with rotation of crops, will enable skillful farmers in Illinois not only to *preserve* their lands in all their original fertility, but in many cases to make them *more productive*. For instance, a farm owned by Mr. James Besley, of Wabash county, who happened to be at my house when your communication came to hand, and whose lands are known to me to have been under constant cultivation for the last forty-one years, produced as good corn last season as at any time previous. So says Mr. Besley. Deep plowing is the only change made in his mode of cultivation.

I am of the opinion that our prairie soils are equal if not superior to those of other States, taking into account every kind of crop which a farmer may wish to grow. And for wheat, rye, oats, bar-

ley, buckwheat, Indian corn, and the different varieties of grasses, I am not aware that Illinois stands second to any State in the Union. I believe, that should she fail to maintain her standing at the head of the farming States, she will, nevertheless, *compare favorably* with any.

I do not think it is policy to over-tax our soils with corn alone from year to year, without a change of crops or rest; but if you consider five, ten or forty years, "*a series of years*," our soil will produce corn for that period without manure.

Respectfully yours,
JAMES FRENCH.

OTTAWA, LA SALLE COUNTY, ILL., *March 30th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—In answer to the questions proposed in your circular in regard to the lasting fertility of the soil of the prairies of Illinois, I have to say:

I am at present a resident of La Salle county, and have taken fine crops from a portion of my land without manure. I believe better crops cannot be produced than I can at present raise without compost.

I am of the opinion that by a proper rotation of crops, with grain and grasses, the only limit to the fertility of our soil will be the end of time.

I cannot say from my own experience whether the "prairie soils of Illinois are equal or inferior to other States, as far as productiveness is concerned, for a series of years, without manure," as I "was raised" in the "Sucker State."

I believe our prairie soil will grow corn for a series of years without manure.

I have held the plow, boy and man, in Illinois, for twenty-five years, and had some experience and observation in regard to the lasting qualities of the soil.

I know a field in Morgan county that was planted with corn for sixteen consecutive years without manure, and without any apparent diminution of the fertility of the soil. Since then, for a period of twelve years, the crops have alternated between corn and small grain, without yet showing signs of deterioration. There are, doubtless, in the older settled parts of the State and in Morgan and Sangamon counties many fields that have been in cultivation much longer than the one I have mentioned, without manure, and still yielding good crops. To talk of manuring all our farms while they are so large is simply ridiculous. With the present scarcity and high price of labor, how is the farmer to find time and money or labor to manure his farm of from one hundred and sixty to fifteen thousand acres? When the population becomes so dense in Illinois that no farm shall consist of more than

eighty acres, it will be necessary to manure the land to *increase* not continue its fertility.

Bronson Murray, Esq., of this county, told me three years since that he had manured a certain portion of his land and kept an account of the labor and increase of crops, and found the one to balance the other so nearly that the only advantage gained was in getting the manure out of the way.

I knew one field of one hundred acres in Morgan county, that yielded seven thousand measured statute bushels of corn without manure. This land had been cultivated for eighteen years, and no compost had been used in that time.

The past year the Hon. David Stearns, of this county, leased three hundred and fifty acres to ten different men. The yield was a trifle over sixty bushels to the acre. Some of this land had been in cultivation for fifteen years, and the rest for a less period, without manure.

Since your questions were with regard to the lasting fertility of the soil, without manure, and not with regard to its beneficial effect upon the land, I have, as I suppose, fully answered them, with my reasons therewith.

I am, yours truly,

WILLIAM STRAWN.

FARM RIDGE, LA SALLE COUNTY, ILL., *April 4th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your circular, asking information in relation to the durability of the soil of Illinois, dated the 18th ult., is received, and I will give a reply to each question without designating them by number.

I reside in La Salle county. A part of my farm has been under cultivation twenty years, and some of it for a less time.

From some portions of it I have taken twenty crops in as many years, without manure, and can now raise a *good* crop without any.

I believe that twenty years constant cultivation have not materially diminished the productiveness of the soil.

It is generally admitted with us that the first two or three years of cultivation are the best for the production of *wheat;* which, I believe, is generally the case with new land, and it is not more marked on the prairie soil than any other. Recent experience with us shows that seeding with grass for two or three years, without manure, renders it nearly as productive in wheat as when new. The greatest fault of our prairie soil for the production of small grain is that it is *too fertile*, producing too rank a growth, but this not a serious fault, except in wet seasons.

I am fully of the opinion, judging from my own experience, that the prairie soil of Illinois is more productive and lasting than any other kind except the rich alluvial of our western streams.

I have raised corn on a part of my farm for six years in succession, without manure, and there was an increase in the yield each year—the sixth being much the best. And I am confident that it would bear good crops of corn for fifty years in succession, *without manure*, if well tilled.

There is no perceptible difference in the productiveness of my prairie land, which has been in constant cultivation five, ten, fifteen or twenty years, in each case without manure. Such has been my experience, and our system of farming is well calculated to exhaust the soil—taking everything off and returning nothing—even burning the stubble before plowing.

Yours truly,

ELMER BALDWIN.

BLOOMINGTON, *March 30th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I received your communication, containing inquiries, which I will answer according to the best of my ability.

I reside in McLean county, and some of the land I occupy has been in cultivation thirty years.

When I came to the State I purchased some land that had been in cultivation about ten years. When I had tilled it a few years I seeded it down to grass, and let it lay about twelve years, when I plowed it up and found it better than the virgin soil.

I have not been in the habit of manuring my land, except that which lies convenient to my barn. I have changed occasionally to wheat and oats, and do not think my land the worse for wear. A good crop can now be grown upon it without manure.

By what is called "rotation" farming, say one-third in grass, one-third in corn, and one-third small grain, I am of opinion that you cannot exhaust it. And by returning all the manure it will improve.

I was raised in Clark county, Kentucky, on the best land in that county, and have lived in Christian county, Kentucky, a number of years. From observation I am of the opinion that the prairies of Illinois are the best natural soils that I have ever seen, and will endure more cultivation without manure than any land I have seen from South Carolina to Canada.

Some of the oldest lands in this county have been in cultivation thirty years or more, nearly all the time in corn, and fail some, but when put in grass are soon renovated. And I am of opinion that if it was subsoiled it would bring as good corn as ever. The best lands in Kentucky, when kept under the plow for a series of years, become stiff, and hence break cloddy, and if exteme drought comes the crops are a failure. I have not seen any land in this county so worn that it will not pulverize easily.

I am of the opinion that in dry summers, by plowing say twelve to fifteen inches deep, *corn can be grown without rain*, if ground is well saturated in May.

The reason why old land becomes disreputable is the slovenly manner of cultivating it.

A neighbor of mine had a field which was old and infested with weeds. He let it lay one summer, plowed in August, sowed with wheat and harvested thirty-four bushels to the acre.

Respectfully,

SAMUEL LANDER.

LEXINGTON, McLEAN COUNTY, *April 4th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Yours of the 18th ult. was received duly, but mislaid till just now, when it came to hand, and I hasten to reply briefly.

I live in McLean county.

The land I have recently sold has been under cultivation about twenty-three years, and a crop has been taken every year from a part of it.

The crops, for the two last years, were somewhat injured by drought, but yielded eighty bushels of corn to the acre.

If twenty-three crops of corn can be taken from the same land without *rest* or *change of crop*, and the last be as good as the first, it is evident that double that number might be taken, without manure, if the crops are changed as they should be.

I believe "that the prairie soils of Illinois are equal to those of other States, as far as productiveness is concerned for a series of years, without manure."

I know of a piece of land in this county that, till recently, never had any thing else than a crop of corn raised on it for twenty years, which was never manured, and the crop raised last was as good as most in the neighborhood.

Yours truly,

THOMAS FELL.

NEAR BLOOMINGTON, *April 7th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Before I proceed to answer your interrogations, I will give the following narrative:

I was born and raised in Franklin county, Ky. In 1812, I moved to Bourbon county, and remained till 1817, when I moved to Christian county, where I lived till 1835, when I came to McLean county, in this State. I have pursued the business of farming from boyhood till the present time.

The greater portion of my farm has been in cultivation from fifteen to twenty-one years. I have raised a good crop every year, when well cultivated, but have never manured more than one acre in twenty, and practiced the rotation system somewhat.

When my oldest ground becomes stiff, and inclined to bake, I seed it with timothy and clover, and, when I have mowed some ten crops of hay, prepare it for corn, and it is as productive as ever.

I have seen no part of Kentucky, my native State, produce greater yields of wheat, corn, oats, potatoes and hay than do the lands of McLean county, Illinois.

Yours truly,

W. F. MAJOR.

BLOOMINGTON, McLEAN COUNTY, *April 7th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I live in McLean county. The land I occupy has been in cultivation twenty-nine years. I think twenty-three crops have been taken from part of it without manure and a part has never been manured, from which twenty-seven crops have been taken.

It is now capable of producing any kind of crop, equal to any former one, without manure, only requiring deep plowing and good cultivation.

My opinion is, that the soil of my farm is inexhaustible, under proper cultivation and a rotation of crops, including grass every five years. The land of this part of Illinois will produce corn, for a great number of years in succession, without seeming to decline in strength, though it must at length decline, of course, under such treatment.

I have never, in any State of the Union, seen land *superior* to that of Illlinois, and in but few places equal to it.

Respectfully, your servant,

J. E. McCLUN.

LE ROY, McLEAN COUNTY, ILL., *April 11th*, 1857.

DR. J. G. NORWOOD:

SIR—In answer to your inquiries of March 18th, I will say:

I reside in McLean county; have been on the same farm twenty-two years. My oldest ground has been in cultivation twenty-four years, and I have taken a crop off of it every year. My manner of farming is this: I plant two crops of corn and one crop of wheat or oats in rotation, without manure. Four years ago I plowed my oldest field about two inches deeper than usual, and raised about sixty bushels of corn to the acre. In the fall I sowed with wheat, and had at the next harvest about twenty-eight bushels to the acre. The next spring I sowed with wheat, and seeded with timothy and clover. I mowed three good crops of hay from the same ground. After mowing last fall I broke up the land and sowed with wheat, but it was winter killed. I believe that I can now raise seventy-five bushels of corn to the acre. I am of the opinion that our prairie soil is *equal* if not superior to any I ever

saw, for durability, except the Miami or Scioto bottoms of Ohio. I will say also that I know from experience that manuring will pay as well on our soil as on any red clay soil I ever cultivated. One corner of the field described above is adjoining my stable, and I have manured several acres, which has paid well and kept the soil light and mellow. I know of fields in my neighborhood, that have been in corn every year for twenty years, that had fifty bushels to the acre last year.

Yours, &c.,

MAHLON BISHOP.

BLOOMINGTON, McLEAN COUNTY, *April 18th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Absence from home is my apology for not answering your inquiries earlier.

I reside in McLean county. The land I occupy has been in cultivation sixteen years, and sixteen crops have been taken from it without manure.

Last season the crop was hardly an average one, on account of the drought, yet our corn crop the season before, (being the fifteenth,) averaged seventy-five bushels to the acre.

I confidently expect a good crop for many years to come, with proper cultivation, even without the application of manure. I will here say, however, that our prairie soils are as much improved by the application of manure, as any with which I am familiar.

As to the lasting quality of the soil, I have only to say that having lived in this county for over twenty-four years, and being well acquainted with many farms that have been in cultivation constantly for thirty or thirty-five years, all that time in grain, and most of the time in corn, and which still produce good crops without manure, I certainly believe that by pursuing a wise system of rotation, and the use of clover and such manures as may be saved on every farm, we may not only keep up but increase the natural fertility of our prairie soils.

I am fully satisfied, from my own experience, that the prairie soils of Illinois are equal to those of Kentucky or any other State.

I know, from my own experience, that our prairie soils will grow corn, for a series of years, without manure.

Yours, &c.,

W. P. WITHERS.

VIRDEN, MACOUPIN COUNTY, ILL., *April 2d*, 1857.

DR J. G. NORWOOD:

SIR—I have the present opportunity of answering you, as far as I am able.

I reside in Montgomery county, but cannot tell you as much about the soil here as I could that of Greene county, where I was raised.

I have lived here but two years, and, from my short experience, believe that the soil is as good as any in old Greene, and will wear as long. I have gathered here of corn, the second year, sixty and a half bushels per acre, and think, from appearance, that the soil will last a great many years, with proper management and deep plowing, and be as good as ever, without any manure; for I know that on the old farm, where I was raised, my father, who was one of the first settlers, having moved there in the spring of 1818, has ground that has been in corn year after year, successively, and as good corn grows on it now as ever, without manure. His ground seems to get better all the time, by means of good, deep cultivation.

We bought land adjoining the old place that had been grown in corn, and nothing else, for twenty years, and it would then raise as good corn as ever grew on it. I believe that my soil will last as long as that, and *I like it better.*

Yours,

L. H. THOMAS.

MARINE SETTLEMENT, MADISON COUNTY, ILL., *March 28th*, 1857.

DR. J. G. NORWOOD:

SIR—I reside in Madison county, and have done so ever since March, 1820.

I have been tilling the farm on which I now reside for thirty-four years, and a part of it has had a crop on it during all that time. When I became heir to this "Old Homestead," it was very much impoverished, as my father knew nothing about farming. In 1839 and 1840, I sowed it with timothy seed, and, much to my surprise, it produced a ton of hay to the acre, without manure. In 1849, I plowed it under when the timothy and clover were in blossom, though there was no clover sowed on it. It will get into my old meadows, and I am glad of it, for I have convincing proof that, when plowed under at the proper time, the soil becomes equal to new prairie.

I have raised five crops of corn off of the said land, in succession, which has averaged sixty bushels to the acre. In 1853, it produced eighty bushels to the acre, with no extra work only deep plowing, and no manure.

I consider my farm about an average of the soil of the State. I know of some that are better and others that are inferior.

I am not surprised that so many persons emigrate from Ohio and Kentucky to this State, where they can put the plow to work on our rich and fertile prairies, which will produce forty bushels of corn to the acre the first season, and have no doubt that the soil of Illinois is superior to the States which they left behind them.

With respect,

DANIEL GROUND.

TROY, MADISON COUNTY, ILL., *March 28th*, 1857.

DR. J. G. NORWOOD

SIR—Your circular of the 18th inst. has been received, and before proceeding to answer your questions, permit me to say, that I am not one of the *anti-manure* farmers. I think that all the manures accumulating annually on a farm should be spread upon the least fertile plow-lands and meadows. Especially is the corn crop greatly increased by the judicious application of manure. I am altogether opposed to the practice, adopted by too many, of suffering the dung heaps to increase till it is necessary to remove the stable or of throwing the manure into the public roads.

I reside in Madison county, and a small portion of my farm, say ten acres, was first plowed in the spring of 1820. Additional portions were broken in 1824 and in 1832. Some parts have been cultivated every year since first broken, while other parts have not.

I have never kept any record, and am unable to say how many crops have been taken from any given tract, without manure.

A good crop can be grown upon it now *without manure*, and probably a better one with.

The principal portion of my farm is so nearly level that it has suffered no perceptible deterioration from washing. The soil is "rich, fat, black," but not "*silicious*," and, I believe, will retain its fertility for a great number of years, even without manure; and, with a judicious system of manuring and rotation of crops, that it will be as durable as any soil similarly managed in the world.

So far as productiveness without manure is concerned, I believe that the prairie soils of Illinois are equal to similar soils, or soils similarly cultivated, in other states, and that their productiveness will continue as long.

I believe that our prairie soils, which are "rich, fat and black," will grow corn for a series of years without manure, but that by the use of it crops may be greatly increased.

Very respectfully, I am yours,

GEORGE CHURCHILL.

LACON, MARSHALL COUNTY, ILL., *March 31st*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your favor of the 18th inst. is received. As I have tilled my farm only eight years, I am unable to form a correct judgment, from experience, how long the soil will last without manure.

I will state that I have resided in Marshall county for the last twenty years, and have been intimately acquainted with most of the *old* farmers who have cultivated their lands from 1836 to this date.

Those farms immediately on the river, with a soil of sandy loam that has been cropped in the usual Sucker style, viz: Corn and wheat—corn and wheat—for twenty years, without fallowing, show that they need rest and manure; while those farms that are upon

the prairies, above the river bluffs, with clayey soil, grow, without manure, as heavy corn and *better* wheat than formerly; and, from present appearances, we must leave the question as to whether they have the "permanent productiveness of the best argillo-calcareous soils of Kentucky," to the next generation to decide.

We have a large representation from the State of Kentucky in this county, and their uniform testimony is, that their native State will not compare, in soil and crops, to this portion of Illinois.

Respectfully yours,

THEODORE PERRY.

SUGAR GROVE, MENARD COUNTY, *April 15th*, 1858.

DEAR SIR—In answer to your inquiries in regard to my experience in farming in Illinois, I have to say:

I moved to Sugar Grove, in Menard county, in the spring of 1820, and settled on a farm. In 1825, I moved to another, which I cultivated till 1850, nearly all the time in corn; and the crops were always cut off for feeding cattle.

There can be a good average crop of corn, of fifty bushels to the acre, grown now, and no manure has ever been put upon the land to this day, to my own knowledge.

There are several farms in the 'Grove' that have been used in the same manner, without manure, that will produce from forty to fifty bushels per acre. These farms have no rest, and are seldom in small grain.

Farmers here are putting their old land into grass for a few years, which they say rests it, and I know of land being three years in grass and then put in corn, that raised from sixty to eighty bushels per acre. I believe that our land may be cultivated any number of years, without manure, by putting in small grain or grass alternately.

Yours in haste,

C. L. MONTGOMERY.

SWEETWATER, MENARD COUNTY, ILL., *April 21st*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—In answer to questions propounded in your circular of March 18th 1857, I have the honor to submit the following:

I reside in Menard, once a part of Sangamon county, and have done so for the past thirty-seven years.

I have taken from my land thirty-three crops, have never manured, and have always had paying crops in ordinary seasons.

I have grown corn for twenty-one years in succession, without manure or change of crop.

This settlement was formed in 1819, now thirty-eight years, and I know of no one here that manures his land yet, and little Menard turns off more surplus breadstuff than the same sized territory in the United States.

I believe that our prairie soils will grow corn profitably from fifteen to twenty-five years, without manure, and after that, subsoiling is all that is necessary to make it as good as ever.

I have some twenty-five gates on my farm, and in setting the posts I have never got through the soil, though I dug the holes two and a half feet deep.

I assure you that I have raised as many as *eight hundred* bushels of onions to the acre, and *fifty* of wheat. *This is a fact*, though people from other States who have never been here, will hardly credit it.

Very respectfully, your friend and servant,

G. BLANE.

NEW DESIGN, MONROE COUNTY, *April 9th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your letter came duly to hand, and with pleasure I reply to your questions, as follows:

I reside in Monroe county, and the land I occupy has been under cultivation sixty-five years. As a general thing, a good average crop has been taken from it every season without manure. A good crop can be grown upon it *now* without manure.

With regard to the fertility of the soil, it is of a lasting quality. I believe from my own experience, that the prairie soils of Illinois are equal to those of other States, so far as productiveness is concerned, for a series of years, without manure.

This settlement was one of the first in Illinois.

Yours, &c.,

JOSIAH LEMAN.

PITTSFIELD, PIKE COUNTY, ILL., *March 30th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your communication of the 18th inst. was duly received, in which you call my attention to the subject of the durability of the soil of our prairies, as compared with our neighboring States.

I emigrated to this county in the fall of 1820, where I have remained till the present day. I commenced improving my land in the spring of 1821.

The land I occupy has been under cultivation thirty six years, and I have taken the same number of crops off of it without manure, and a good crop can now be grown upon it *without the application of manure.*

With regard to the *lasting* quality of the fertility of the soil, I have given my experience for the last thirty-six years. How much longer it will last I cannot say. A portion of the "American bottom," it is said, has been cultivated over one hundred years, and it appears there is no alteration of the soil.

I believe that the prairie soils of Illinois are superior to those of other States, for a series of years without manure, but am of the opinion that there is no land so rich but that manure will warm, quicken and improve its productiveness.

I know that our prairie soils will grow corn for a series of years without manure; but after a few years it will be found to improve the crop, by *deep ploughing*. I think deep ploughing is too much neglected by our farmers.

A portion of the land I improved thirty-six years ago, has been planted with corn every year since, and last year produced as good a crop as I ever saw on it, and it was never manured. The uplands are more variable, and where the land is broken and exposed to washing would not be considered so desirable. I formerly entertained the opinion that upland was inferior to the valley lands. I have lived on, and cultivated both, and my experience is, that where our upland prairie is not exposed to excessive washing, it is equal to "bottom lands."

The broken lands of our county, bordering on our river bottoms and ravines, is found to produce wheat equal if not superior, to our richest prairie lands.

Truly yours,

W. ROSS.

GRIGGSVILLE, ILL., *April 21st*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—In reply to yours of the 17th inst. I would say, that I am a resident of Griggsville, Pike county, and have lived here twelve years.

The land I improve has been under cultivation twenty-six years. Within the last twelve years there have been fourteen crops taken off to my knowledge—twelve of corn and oats and wheat, and two of buckwheat.

During a period of fourteen years before I came in possession of it, as near as I can ascertain, it was in corn nearly every year. It has never been manured, as I know of.

I raised a crop of corn last year on a part of the land, and had nearly fifty bushels to the acre, where there had been a succession of crops without manure, or clover, or rest.

I have lived in Ohio for thirty years, been in Kentucky a great deal, and, from my knowledge and experience, I believe that as a general thing the land of Illinois is *better* for a series of years for corn than either of those States.

Yours truly,

THOMAS BRADBURY.

PERRY COUNTY, *March 30th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR:—Your communication of March 18th, on the fertility and comparison of prairie soils of Illinois with neighboring States, came safe to hand.

I have lived in the county of Perry for twenty-eight years, during which time I have cultivated from three to four hundred acres of land annually, and I consider "experience better than theory." I know of no county in the State which has more fully tested the durability of the soil than this. Being an interior county, without a market near for the sale of grain, or any mode of transportation, except by wagons, (until recently the Central Railroad,) the residents of this county, including myself, were forced to feed all the grain we raised to stock, consequently we raised only such grain as was suitable for feeding horses, cattle, hogs, &c. I confined myself almost exclusively to corn, oats, and meadow grass, with a very small crop of wheat, merely enough for bread.

On my farm I have several fields from which I have taken twenty-five crops without manuring—three-fourths of them corn, the remainder oats. And I think those (that is the oats) as wearisome to the land as any that grows. The heaviest crops I ever raised were in 1855, and were the twenty-fourth. That year was remarkable for heavy crops, but I perceive no material change in the production for the last fifteen years. Sometimes it has been good, and at other times better, owing to the season.

There are in my neighborhood several old farms, which were made in the early settlement of this country. One lies about a mile distant from my house, and was settled more than sixty years ago. I have known it for thirty-five years, and during that time corn has been cultivated upon it almost exclusively. It still produces well, say from thirty-five to forty bushels per acre, without manure. I know of another field of twenty acres, on which twenty-seven crops of corn have been raised successively without rest or a particle of manure. Generally the stalks were raked and burned before ploughing each year. This field is still producing a fair yield, from thirty-five to forty bushels per acre, and in 1855 it went far above that.

As regards the lasting quality of the soil, from my own experience and observation, I consider it far superior to many of the States, and certainly equal to any I have seen. As to wearing it out entirely I think that impossible. I mean the prairie country. There are no old fields turned out, in consequence of their having been worn out as I have seen in Kentucky, Tennessee, and other older States, in which I have traveled. At the same time, some of the land in Southern Illinois has been worn as long as a great portion of Kentucky.

As to its susceptibility of improvement by manuring, I will give you a few experiments of my own. I have eighty acres in meadow, a portion in timothy, and red clover and timothy mixed; also

some in red top. Of the timothy and clover after the fourth crop it began to decline, and by the sixth was very sorry. I then spread a light coat of manure on it in February from the barn lots and stable, and harrowed it well. By this means it was completely resuscitated, and the yield afterward was better than it had ever been. A gentleman from Virginia was looking at it and pronounced it as good as he ever saw in that State.

The red top I have never manured, and perceive no decline in it as yet. I have some meadow fifteen years old.

I am respectfully yours,

H. S. OZBURN.

ROBIN'S NEST, PEORIA COUNTY, ILL., *April 5th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your circular is at hand, and it gives me great pleasure to answer your questions as far as my experience will permit.

My present place of residence is in Peoria county, where I have lived for twenty years, during which time I have taken twenty crops from the land without manure. Good crops can *now* be taken from the soil without the application of manure.

I believe that the soil of our prairies will last hundreds of years, and will maintain its fertility if it is deeply cultivated.

It is my opinion that the prairie soils are immeasurably superior to any others that I am acquainted with.

I know that our prairie soil will grow corn for a series of years without manure. There is a field on the farm adjoining mine that has grown corn for twenty consecutive years without manure, and is now capable of producing at least one hundred bushels per acre with good culture.

With great respect,

HENRY J. CHASE.

PUTNAM COUNTY, ILL., *April 18th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I received your circular and letter, making inquiries in regard to the soils in the county in which I live, &c.

I reside in Putnam county, and this has been my home for the last twenty-seven years. Part of the land I occupy has been in cultivation for twenty-one years, and during that time I have taken twenty crops from a part of it without manure, changing from corn to wheat and Irish potatoes.

In 1855 I averaged sixty-five bushels of corn to the acre, which was as good a crop as was raised on land which had not been in cultivation over five years. But I think it would produce better if manured.

That portion of my land which I have seeded down to timothy

and clover for four or five years, and then ploughed, has been very much improved.

I think if land is seeded down with timothy and clover, say two out of six years, it will be equally as fertile after cultivating for twenty years, as when new, provided the land is ploughed deep, or rather *subsoiled* as deep as twelve inches once in four or five years, which is better than a dressing of manure.

I cannot tell by experience whether the prairie soils of Illinois are equal or inferior to those of other States, as I have been mostly raised in this State.

I know thousands of acres in Putnam county that have been cultivated for over twenty years without manure, and yet produce good crops, but as I have said before, the land is improved by rotation.

Yours truly,

WM DURLEY.

RANDOLPH COUNTY, ILL., *March 30th*, 1857.

DR. J. G. NORWOOD:

SIR—I have resided in this county thirty-six years, but was born and raised in the northern part of Kentucky.

I believe that the soil in Illinois will produce *longer* without manure than the soil in Kentucky, but I think our land bakes more with heavy rains, or when trod upon, than the land in Kentucky; also requires deeper ploughing.

I have cultivated the farm on which I reside twenty-five years. The farm which my father settled on, has been cultivated some of it for thirty-five years, and neither have scarcely had any manure, but frequent rotation of crops.

On my own land, two years ago, I raised sixty bushels of corn per acre, on my oldest land; and the oldest land on my father's farm produced forty bushels per acre.

I have no hesitation in saying that I believe our prairie lands will produce as long without manure as the soil of Kentucky.

Many farmers plough too shallow, and when the land is too wet, both of which are injurious to the lasting quality of the soil.

Respectfully,

JOHN PARKS.

RANDOLPH COUNTY, ILL., FLAT PRAIRIE, *April 1st*, 1857.

DR. J. G. NORWOOD:

HON. SIR—Your circular of the 18th of March, 1857, was duly received, and I will endeavor to answer the questions.

I reside in Randolph county, and my land was entered in 1822.

Since a year from that date a part of it has constantly been in a *grain* crop. It came into my possession in '43.

Parts of it have occasionally been seeded down in timothy or clover, and *then* parts of it manured, and parts of it have been almost constantly in grain *with little or no manure.*

I have taken from six to ten crops from the ground since I owned it, and can take an average crop still, of either corn, wheat or oats.

With judicious management, and a proper rotation of crops, the fertility of our prairies may be continued almost *ad infinitum*, and doubtless might be greatly increased by the use of manures.

I have never *farmed* it anywhere but on this flat prairie, and cannot speak from experience of other States; but from inquiries of others, and observation, having been in almost every northern State of the Union, and south as far as Maryland, Virginia and Kentucky, I am of the opinion that there is no State of the Union so well adapted for farming, and where farming can be carried on so profitably, as in Illinois, *even without manure.*

I know that corn can be grown for ten years, and from information from reliable parties, believe that it may for twenty or more. In the course of inquiries made since receiving your circular, men on whom I can rely have told me that they have land within three miles of me that has been in crops of oats, wheat and corn for thirty-six years, without manuring, except on spots where the land is *thin.*

I may add, that I have never considered the prairie on which I reside more than second rate at best, as regards its fertility, when compared with others that I have been on, but skillful farming and judicious management, makes it yield crops equal to the best. And even second rate, as Flat Prairie is, from what I have seen in Ohio, Kentucky and Pennsylvania, were we to lay down our exhausted cornfields in blue grass, clover, &c., as much as they do in those States, we might pretty much dispense with manure, and take the trouble to move the stable rather than haul it out. There is no doubt, however fertile any of our prairies may be, that fertility can be increased by the judicious application of manures. At least such is the opinion of

Yours, most respectfully,

WILLIAM ADDISON.

FLAT PRAIRIE, RANDOLPH COUNTY, *April 4th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your circular of the 18th of March, I duly received, and answer it with pleasure, considering the subject one of great importance.

I reside in Randolph county, and my land has been in cultivation twenty-one years.

I have taken fifteen crops from it without manure, though my system of farming is somewhat different from that practiced a few years since. I follow the rotation system in cropping, and of course manure for my wheat crop. But I know of fields in this

neighborhood older than my own, which have never received any manure, and yet yield, yearly, remunerative crops.

I will say that I have always considered the soil of Illinois as unsurpassed in fertility, and it is my belief that it is superior to that of any other State in the Union which I have visited.

I believe that it will grow corn for a series of years without manure.

I may say in conclusion that with a judicious system of farming, the soil of Illinois will last for a lifetime. I should say that the following mode would be proper, viz.:

Break up meadow land as early in the spring as possible. Let the cattle graze on it during the summer, and plough again in the fall, and sow with wheat. Next year, plant corn, then sow oats, or flax, and seed down in the fall with timothy. Then mow or pasture for four or five years, and proceed as before.

Yours truly,

JAMES CRAIG.

SPARTA, RANDOLPH COUNTY, ILL.

DR. J. G. NORWOOD:

DEAR SIR—In answer to your questions permit me to say, the land that I improve has been in cultivation for sixteen years, and those portions of my farm that were good at the first, are still good without any manure. However, as I came here at a late day I had to take what no one else would, consequently have had to manure all I could. The effect has been, that my farm is much better than when I bought it. The soil on our prairie is not an average of the Illinois prairies, still, those who came first and had choice of land, can, and have raised remunerative crops for the last twenty-five or thirty years. But the world is moving, and barn-yard and stable fertilizers are becoming indispensable even in Egypt.

I have no experience to give of any of our sister States, having come from Scotland to Illinois. My opinion is, that the talk of land getting "*old*," "*worn out*," &c., &c., is all nonsense. A careful system of farming will improve the soil.

Yours,

BRYCE CRAWFORD.

PLEASANT RIDGE, ROCK ISLAND CO., *April 7th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your favor of March 17th, containing several inquiries in regard to the natural qualities of the soils of the State of Illinois, is received, and I cheerfully comply with your request.

I am a resident of Rock Island county—have been engaged in farming for the last thirteen years in this State, and was raised a farmer in New York.

The farm upon which I live was put under cultivation five years ago. I use no manure for any grain crop. The manure which accumulates about my barn and stables I spread over my tame meadows. The increased yield will not pay the expense of hauling. The manure is removed from the yards more for the purpose of getting about conveniently, than the good I get in an increased crop.

I am fully of the opinion that our prairie soils will yield better tame grasses after the top, loose, black loam is comparatively used up by cropping for ten or twenty years, than it will in an earlier culture. Our soil is formed by the continual decay of vegetable matter mixed with the ashes accumulated from the annual burnings of our prairies for an indefinite period of time; thus making a rich, deep, loose earth, capable of producing a good crop for many years to come. This soil is from two to six feet deep, and underlaid with clay, and is as well calculated to stand much wet, or a severe drought, as any soil under the sun. A soil of the above description certainly cannot easily wear out. All cereal grains, and most of our vegetables will ripen before any drought can seriously affect them. Corn is seldom affected with dry weather, particularly if the ground is ploughed deep.

By ploughing four or five inches in depth we raise all our crops. Wheat from *twenty-five* to *thirty* bushels per acre; oats, from *forty* to *seventy-five*; and corn from *fifty* to *eighty*.

I conclude that there is no soil like ours in any other country, or if like it, no *better*. I am acquainted with the soils of New York, New England, Ohio and Indiana. In most parts, we find the subsoils to be a stiff, heavy clay, gravel or lime rock, all of which is too near the surface to make a lasting soil. While these and other States use manure at a great cost, Illinois can raise crop after crop for many years *without any manure of any kind.*

I have often heard of crops of corn being raised in this part of the State, upon the same piece of ground from ten to fifteen years in succession without manure. One of the best farmers in Mercer county, a few miles from here, informed me last fall that he had planted a field of thirty acres, every year for sixteen years, and though last season was bad for corn, yet he would have from sixty to seventy five bushels per acre. No manure used.

I would as soon take a field which has been cultivated ten or fifteen years, to raise a crop of *premium corn* upon, as that which had been tilled for five or ten years.

There is no doubt but that manure will be wanted in years to come; but with the soil we have got it will be in *good plight* when it has been cultivated as long as other soil, in other States has been, that is worn out.

I believe that our soil is too loose to grow as good crop of hay now, as it will after the subsoil is brought up, and a more compact *working* soil is formed. Then the grass roots will be more likely to retain their place in the winter, and not stand so much in stools as at present.

Very respectfully yours, C. G. TAYLOR.

SANGAMON, ILL., *March 31st*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your communication, addressed to the farmers of Illinois, was received, as directed to myself, a day or two ago.

I have been a resident of Sangamon county nearly twenty years, and have been engaged in farming the principal part of that time. During the first ten years I occupied land that had been cultivated in corn for perhaps fifteen years in succession, and was considered worn out, not having been ploughed more than two or three inches deep. By deep ploughing, this land was made to yield an increased crop of at least fifty per cent. A part of the farm was sown in grass, and produced excellent crops for four or five years, when it was again farmed in corn and wheat, and yielded equal to new land. By this process of rotation in crops without manure, it continues to produce a full average crop of corn. Part of this land has been in cultivation for *forty-five years without manure*, and now rates as first quality.

The land upon which I now reside has been in cultivation six years, and yields fifty to seventy-five bushels of corn, and twenty to thirty-five bushels of wheat per acre. Forty-one and two-thirds bushels to the bushel sown, was raised on an adjoining field, being the third crop (of wheat) in succession without manure, and the only crop raised on the ground.

My opinion, based upon experience, is, that the prairie soil of Illinois will improve upon its natural wild state, by systematic farming, *without manure*. I consider the properly farmed prairie land of Sangamon county equal to the manured and highly cultivated lands of Lancaster and Chester counties, Pennsylvania.

It is a well established fact, that average crops of fifty bushels of corn per acre, have been raised on the prairie soil for several years in succession, by the *corn raisers* of Illinois, without manure.

Yours respectfully,

J. J. MEGREDY.

SANGAMON COUNTY, *April 6th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I will try to answer your questions in as short a way as possible.

In 1824, I emigrated from Kentucky to Sangamon county, where I now reside. In 1828, I broke land, which I plowed last week, that is capable of producing seventy-five bushels of corn to the acre, without manure.

I know other land that has been in cultivation since 1818, in corn at least three out of every four years, that appears to be almost as good as ever.

I have been acquainted with some of the best soil of Kentucky, and it is very inferior to our prairie soils as to productiveness or endurance.

If I was now a young man, with my present experience, I should have no fears of ever wearing out the prairie soil of Illinois, with proper cultivation, and without manure. Owing to shallow plowing it will sometimes "tire," as we say, but plow deep and it is rested again.

Yours truly,

JOHN C. CROWDER.

WILLIAMSVILLE, SANGAMON COUNTY, ILL., *April 10th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—On receipt of your letter, I proceed to reply at once.

I lived in Fleming county, Ky., until I was 21 years old, and followed farming there; have lived in this State 27 years, and followed farming here.

I have resided, most of the time, in Menard county, but now live in Sangamon, near Williamsville. I cultivated land in Menard for twenty years, and had it in corn, wheat and oats every year—a part of without any manure; and, where it is not too rolling, the soil is still good, and I believe I can raise sixty bushels of corn to the acre.

My opinion is, that the ground is better now for wheat than when it was new, except the first year. I manured some on the rolling ground, and it is too rich for oats. I have sown oats on it for several years, and it has invariably fallen down. This soil is capable of standing it longer than any.

I have seen land in Kentucky which, if cultivated half as long as I have cultivated this, would not produce half as much grain.

Where I now live the country has not been settled long, in consequence of its being far from timber, but if the land is well tilled, without manure, it will produce, in a good season, eighty bushels of corn and sometimes as many as forty or fifty bushels of wheat to the acre. But the season and everything else must be right.

I heard a man say that year before last he raised one hundred bushels of corn to the acre. His land has been in cultivation for several years, and he is a man of truth and a Methodist preacher.

I am now making a farm near Williamsville, and made one last year. I am making plank fence, and have dug a great many holes for posts, and the soil is about two feet deep on an average, black and rich.

I will speak of well-digging in Menard county. In a great many places when you dig a well you go through the soil, then clay, then white dirt, then black dirt, which is composed of leaves and branches of trees, that are mostly decayed. But we frequently get bits of wood and bark, and sometimes logs.

Yours with esteem,

D. K. CALLARMAN.

RICHLAND, SANGAMON COUNTY, *May 7th*, 1857.

DR. J. G. NORWOOD:

SIR—Your letter of March 18th has just come to hand—a long delay; and, with pleasure, I will make to you a few statements:

I have been living in Sangamon county, on a part of the farm which I now occupy, for thirty-two years—ever since I was a small boy.

Some portions of this farm, within this period, have produced *twenty-seven* full crops of grain. *Twenty-three* of these crops were corn, three of them were wheat and one was oats. Previous to the year 1825, it was in other hands, and produced a number of corn crops in succession. During the last five years, these oldest pieces have been in clover, producing very heavy crops. Now, to my certain knowledge there never was a shovel-full of manure or a handful of sulphate of lime, guano, salt or any fertilizer intentionally put on the land; nor was there ever any of the sub-soil brought up into use, which ought to have been done.

We have, on some of the oldest portions of this farm, plowed under luxuriant crops of clover, after remaining five or six six years set, and can assure you that, during some years after this treatment, they produced just like new prairie land. The best prairie soil does not seem to run down or become poor—that is, the level prairie—but merely to become hard and a little disposed to bake, after many years of corn cropping; and the clovering, or treating with other grass a few years, effectually remedies this, and the soil becomes as lively and productive as ever, and does not need a similar treatment for many years.

Yours truly,

GEORGE M. HARRISON.

SANGAMON COUNTY, *May 25th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—I hasten to reply to yours of the 18th of March.

I now reside and have been a farmer in Sangamon county for thirty-five years.

The land I occupy has been in cultivation nine years, and I have taken the same number of crops from it without manure.

I am acquainted with land which has been under cultivation thirty years, and produces very fine crops without manure.

Good crops—say from from forty to fifty bushels of corn per acre—can now be grown upon the land I occupy without manure.

In regard to the lasting quality of our soil, *I know of no land that is equal to it.*

I believe, from my own experience, that the prairie soils of Illinois are equal or *superior* to those of other States, so far as productiveness is concerned for a series of years, without manure.

I may now state, that I was born and raised in Madison county, Kentucky; left there when I was twenty years old and went to

West Tennessee; lived there about three years, and in the Southern part of Kentucky two years; from thence I moved to Sangamon county, and am satisfied that the soil of Sangamon is superior to the soil of the States I have mentioned.

Yours truly,

J. A. BALL.

SHELBYVILLE, SHELBY COUNTY, ILL., *April 11th*, 1857.

DR. J. G. NORWOOD:

SIR—I received your document, dated March 11th, 1857, wishing my experience relative to the natural soils of our prairies. I am happy to give you the little experience that I have had in cultivating the same, for the last twenty years, in Shelby county.

The land I now occupy has been in cultivation twenty-five years. I have cultivated it myself for eighteen years, and it has never had any manure to my knowledge.

I have taken ten successive crops of corn from the same field, and could not see but that the last was a good average crop, and am confident that I could have raised ten bushels more to the acre with the same success without manuring.

I consider our black prairie soils the most fertile and susceptible of a larger cultivation, and rotation of crops, than any other, with the exception of the "American bottom lands," and don't think these superior to our prairies.

I am of the opinion that our lands could be improved by manuring.

I know of no country which will stand a drought equal to our prairies, and a wet season does not affect the soil injuriously either.

I will here give you a history of my wheat raising, which may be somewhat interesting.

In may 1854 I broke prairie for wheat, which I sowed in September following, and would have had a crop of thirty-five or forty bushels per acre, but a frost came after the heads had made their appearance, and blasted what was out of the stalk. As it was, I raised twenty bushels per acre on about twenty acres of ground.

In the fall of 1855 I plowed and sowed about eight acres. I also plowed about four acres, but could not get such seed wheat as I wanted, so I let the rest go unsown with the intention of putting it in corn in the spring, but when spring came I found the portion I had not plowed so well set in wheat, that I concluded to let it stand and see what it would come to. When the harvest season came, I could hardly tell the difference between the wheat I plowed and sowed, and that which came up spontaneously. The average crop was fifteen bushels per acre. This is the third season, and now it looks as fair for a crop as any I have on my ground. I shall leave it to see what it will be at harvest, and if I get the third crop without plowing or sowing, I shall set down Illinois a step beyond No. 1, as a wheat growing State.

I do not wish you to understand that the above is my method of raising wheat, but that this has been an experiment; at the same time it has clearly proved to me that we are about one month too late in sowing our wheat. I think it should be sown by the middle of August to insure a crop.

I know of some fields that have raised eighteen crops of corn in succession, and the owner says that there have been twenty-five crops of corn raised on the same piece without any rest or manure, and they are now equally as good as at the first.

Yours truly,

M. D. GREGORY.

RIDGE PRAIRIE, ST. CLAIR COUNTY, *March 27th*, 1757.

DR. J. G. NORWOOD:

DEAR SIR—I have this evening received your letter of the 18th inst., and my answer is as follows:

I live in St. Clair county, one of the Egyptian counties of Illinois. I have lived here thirty-eight years, and am a tolerably large farmer for this region, having between fourteen and fifteen hundred acres under cultivation.

In 1828 I commenced one of the first farms on Ridge Prairie, which has been cultivated ever since in corn, wheat, oats and barley, without manure, and without any perceptible diminution of crops; it only requiring a little more labor to keep down the weeds than at first.

I might perhaps as well answer all your inquiries under one head, by the statement of a few facts within my own knowledge and experience.

In 1840 I became possessed of the tract of land containing what was called the "old field," the first improvement of my father-in-law, made in 1802. I ploughed it up some two or three inches deeper than it had been cultivated before, and raised full eighty bushels of corn to the acre. Since then it has been rented to a tolerably good farmer, who raises from fifty to sixty bushels of corn per acre, or from twenty to thirty-five bushels of wheat. This land has been in cultivation some fifty-four years, without any appearance of exhaustion, and without ever having a particle of manure.

I have had some lands in wheat for eight successive years, and they appear to get better every year.

As to how long our lands will last without manure, I am of the opinion that where our black soil is several feet in depth, and not rolling enough to wash to any considerable extent, that a thousand years are almost as one day in comparison to its durability. It appears only necessary to plough three or four inches deeper than usual, once in every eight or ten years.

I do not wish to be understood as expressing an opinion that

manure would not quicken and increase the fertility of our soil. I only speak of what has been done, and what I believe can be done without it.

Yours respectfully,

JOHN THOMAS.

SHILOAH VALLEY, ST. CLAIR COUNTY, *March* 28, 1857.

DR. J. G. NORWOOD:

DEAR SIR—In reply to your communication my answer is as follows:

I am now and for fifty years have been a resident of St. Clair county. I was born and raised on the farm I now occupy, which is situated in what is now called Shiloah Valley, formerly a part of Ridge Prairie, and about five and a half miles east of Belleville.

A considerable part of the land I occupy (prairie land) has been under cultivation for *fifty-two years.*

No part of the land I occupy has ever been manured.

That part which has been in cultivation fifty-two years, and a small portion of my other land, were in clover one season about seven years ago.

During the *fifty-two* years, about forty-five crops (principally corn, but some wheat and oats) have been raised upon the land in question.

To the question, "Can a good crop be grown upon the land *now* without manure?" my answer is emphatically, *yes.* The land I allude to as having been fifty-two years in cultivation, I put in wheat four years successively, preceding last year, and the growth was so rank that the wheat lodged each of those years, for which reason I planted it last season in corn. I consider this prairie soil, (which has been in almost constant cultivation for more than half a century without manure,) *too rich* for the prosperous growth of wheat.

As to the *lasting* quality of the soil you will gather my conviction from what I have already said. If properly cultivated *I believe it will never wear out.*

I reply to your question in relation to the quality of our prairie soils in comparison with those of other States, I answer candidly and decisively: I have some experience in the matter; I have traveled over twenty-four of the best States of the Union, (and among others, I have been in about half the counties of Kentucky,) paying particular attention to the nature and productiveness of the various soils, and I do not hesitate to affirm that our prairie soils, for lasting fertility, without the aid of manure, *are unequalled by any I have seen.*

As to your final question, relating to the capacity of our prairie soils "to produce *corn* for a series of years without manure," my answer is, that from my own experience, *I know they will do so.* I have knowledge of good corn crops grown from twenty to thirty years, successively, on the same land, without manure.

Yours very respectfully,

FELIX SCOTT.

Grossland, St. Clair County, *April 4th*, 1857.

Dr. J. G. Norwood:

Dear Sir—My knowledge of the comparative productiveness of our prairie soils with the lands of Kentucky, is quite limited. Yet, from personal observation in passing over some parts of that State, my conclusion is, that the soil of Illinois generally, is much *superior* to that of Kentucky.

I will give you some of my experience in farming on the land which I have been fortunate enough to own and occupy since 1829; and in the first place will speak of the productiveness of certain portions of my farm, which have been in cultivation for a series of years without ever having received any manure or being seeded down with clover or other grass to renovate the soil.

I have one piece of twenty acres on which my first crop was corn, grown in 1831. The whole twenty acres was cultivated in corn for four years. After that a part in corn and another part in barley, for two years. The seventh year my crop was oats, which I harvested and then seeded with timothy and red top, for the purpose of making hay. Since 1838 it has been mown every year, yielding on an average about one and a half tons to the acre. It also affords me some pasturage in the fall.

In the years 1837, '38 and '39 I improved, about one half mile from my residence, a farm of two hundred and forty acres. About forty acres of this was kept in meadow, the remainder has been plowed every year since it was improved, and still produces remunerative crops of wheat, barley, oats and corn. This land has been plowed every year for eighteen years, and the most of it has been in corn every year.

There was a wide space of this field sown with wheat last fall, some of which was much injured by the army worm. That which was not injured looks as promising for making a good crop as any I ever saw at this season of the year.

The above named land has never had anything applied to it in the shape of manure or lime, or any of the fertilizers used for the renovation of worn out lands.

It is observable that our lands, after being cultivated for several years, become more compact, and require more labor to cultivate them properly than does the virgin soil. We are now ottentimes compelled to pass a heavy roller over it in order to pulverize and make fine the hard lumps which are not common in new land. Experience has taught me that barn yard manure when applied to old cultivated land will keep it light and loose. The addition of manure to our land will frequently cause our wheat to fall while green, and thereby ruin the crop. Manure is indispensable on land which has been long cultivated in order to insure a good crop of potatoes. Land is seldom too rich for corn or grass, and for the former manure is beneficial.

My experience is, that by constant cultivation our soils *do* become less prolific, and it requires more labor to raise grain of any kind.

The best fertilizer is clover. In two years it will make the land as loose and productive as the virgin soil.

With a high sense of regard, I am, sir, truly yours,

JOSEPH GRIFFIN.

ST. CLAIR COUNTY, *April 8th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—In reply to your queries, I would say:

St. Clair county is my residence, and has been for the last seventy years and nine months, and as farming has occupied most of my time, I am laboring under the impression that no one can better judge of the fertility and productiveness of the soil of our prairies than myself. Three score and ten years has afforded ample time. The farm I occupy has been in cultivation fifty-two$\frac{8}{8}$ years, and no attention has been paid to manuring as yet.

If the present season should be favorable my calculation is to obtain from forty-five to sixty bushels of corn per acre, and with necessary cultivation even more.

As to the lasting qualities of the soil, I am of the opinion if farmers would abandon the wretched practice of burning corn stalks and wheat stubble, the rich prairies of Illinois, without any more manuring, would last as long as there would be human beings to cultivate them.

From the knowledge I have of other States, I consider the prairie soils of Illinois are equal to those of any and inferior to none, as far as productiveness is concerned, for a series of years without manure. I know from experience that our prairies will bear a succession of corn crops without manure. My farm has been in cultivation upwards of half a century without manuring, and I discover no failure for the last thirty years.

Yours truly,

ROBERT LEMEN.

TREMONT, TAZEWELL CO., ILL., *April 6th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your circular of the 18th of March came to hand a few days since, and my answer is as follows, viz:

The land I occupy has been in cultivation only about six years, hence any facts in regard to it, in so short a time, would not be correct data from which to judge of the durability of the soil.

The out-skirts of the prairie on which I reside have been under cultivation about twenty-eight years. Other portions, of a more recent date, varying from three to twenty-eight years. The first settlers grew little but corn, and that on the same piece of ground for at least twenty out of the twenty-eight years, and without any material difference in the yield per acre, and without manure, except small pieces to which they were necessitated to remove it to prevent its inconvenient accumulation at the stable.

It is the opinion of our oldest and most experienced farmers, with whom I have had frequent opportunities to converse upon, the subject, that by plowing deep, thus bringing up the under soil to the fertilizing effects of the atmosphere and other agents, and by a proper rotation of crops, the natural strength of the soil may not only be retained but even greatly increased, without the aid of manure.

I consulted one of the oldest farmers in this vicinity, whose farm had been under cultivation twenty-four years, and he said he realized, with ordinary cultivation, an average of fifty bushels of corn per acre the last year, without manure.

As far as my observation goes, in traveling through the eastern, middle and northern States, our soils are not only equal but *far superior*, both in productiveness and durability, to those of neighboring States, adopt whatever mode of cultivation you will.

Very respectfully yours,

JOSIAH SAWYER.

FLOWER DALE FARM, TAZEWELL CO., *April 14th*, 1857.

DR. J. G. NORWOOD:

DEAR SIR—Your communication of the 18th ult. did not reach me till the 12th inst., and I hasten to reply to your questions.

I reside in Tazewell county. The land I now occupy has been cultivated five years. I am in the habit of manuring my fields, and seldom take more than two or three crops without manure or grass. My land will grow a good crop of anything adapted to our climate. I have no doubt but that my farm would last a score of years without any fertilizers and still produce good crops. I am acquainted with the soils of Pennsylvania, New York and Illinois, and I do know that the natural productiveness of the two former bears no comparison to the latter. I believe "our prairie soils will grow corn for a series of years without manure," and from the best of evidence.

The day after receiving your letter, I conversed with Mr. Jerome Valentine, a gentleman of unimpeachable veracity, and who is said to live upon the first farm ever cultivated in Tazewell county, and in reference to this subject, he said that on a farm which joined his was a field that had been tilled in corn for twenty successive years, and that the crops were still good. I will merely add that we need not be so alive to either mistakes or misrepresentations. They are as cobwebs around the limbs of an infant giant. Every day we live is a volume of refutation.

Most respectfully,

G. W. MINER.

PREMIUM ESSAYS.

ON THE VARIOUS BREEDS OF SHEEP, AND THEIR ADAPTATION TO THE PRAIRIES.

By A. B. McConnell, of Sangamon County, Ill.

At this late day, I presume, it will no longer be disputed that our climate is well adapted to wool growing, and also for the fattening of mutton. I have been growing wool in this State for the last fourteen years, and several years previous in the State of New York. When I first saw Illinois and its prairies I arrived at the same conclusion with many others at that time—having been raised amongst the hills and rocks of the east—that the prairies were too low and level for the health of sheep and their development.

It is a very common idea that sheep will only do well in a hilly country, from the fact that much of the low, level lands of those countries are inclined to be springy and mossy, and that sheep confined to such pastures soon get diseased, and the owners are compelled to turn them upon the hills or lose their flocks. I have no hesitation in saying that sheep are not liable to contract diseases upon our prairie soils. The foot rot, that made such havoc among their flocks east, will not continue the second summer upon our prairies. I speak from experience, and have also known other cases where large flocks have been driven here with the disease upon them. It has never shown itself the second summer, and but very slightly the first.

We have no contagious diseases here that I know of, except the scab, and that is said to be easily subdued and kept down by a decoction of tobacco and soft soap. To cure the disease it is necessary, directly after shearing, to dip the whole flock, once a week,

for three or four weeks. I know of one flock of about fifteen hundred that had the scab that has sheared five lbs. of washed wool per head for the last two years; but if any flock master should be so unfortunate as to get it into his flock, my advice would be to keep them from breeding. Let them get fat upon the summer range and sell them to the butchers As the disease does not trouble or affect them in suummer it does not injure them for mutton.

Then I arrive at the conclusion that our climate and prairies are well adapted to sheep husbandry. For I believe it to be a fact, which is generally acknowledged, that no country can surpass us in growing the necessary food, both to make wool and mutton. The question then arises, which is the most profitable breed. The answer depends entirely upon circumstances and locality. If near some large towns, and mutton is the object of the breeder, then I would say some of the long wooled breeds or the Southdowns. There is a great diversity of opinion as to which of the above breeds will prove to be the most profitable for our soil and climate. Having never bred or handled either of them, I do not feel competent to decide between them. The Longwools attain to greater size and shear a larger fleece, but they will not bear to be herded in as large flocks as the Southdowns, and being greater feeders, in case of long droughts, will not stand as much short keeping.

There is probably no country that consumes more mutton than England, and there the Southdown mutton, for its fine flavor and superior quality, stands pre-eminently the highest. But probably for their great size, where but a small flock is desired, the Longwools may yield the greatest profit.

Having decided which is the best breed for mutton, the question comes up—which is the best breed for wool growing? I answer the Merino. In all fine wooled flocks wool is the first object and mutton the second. So in pursuing our inquiries, we must take into consideration which is the most profitable breed for both wool and mutton combined. There are three classes of Merino, the French, Spanish, and what is termed of late years, the American. The latter is a stock of sheep which have been bred from our earliest importations by Messrs. Humphrey and Jarvis, as far back as 1802. Probably but few of those importations have been kept pure. They have been crossed with others, and a few years ago, when the Saxony fever ran high, most of the fine flocks were crossed with them, to the great detriment of the country and also to the pecuniary interest of their owners.

There is also a diversity of opinion as to which is the best, the French or Spanish. Both have their admirers, and I suppose that circumstances and locality will govern, to a great extent, without deciding between them. In Central Illinois and south, where they can be herded upon grass the most of the year, and corn be grown cheap and in great abundance, at a low price, I think the French will always prove to be the most profitable. They are of large

size, of strong, vigorous constitution, good feeders, and come to maturity at an early age, and shear very heavy fleeces of a fine quality. The ewes, being strong, make excellent breeders; the lambs come strong and healthy, and are but little trouble to raise. The wethers make good mutton, will fatten readily in large flocks, and will fall but little behind the mutton sheep in weight; and when the wool and mutton are taken into account, they will prove to be a profitable breed for the farmer.

The Spanish being of a smaller breed, and being kept more expressly for wool growing, are probably the best sheep for northern latitudes. In such localities grain is usually at a high price and but little is fed to stock sheep—hay is the principal food—and what mutton is sold is generally taken from the pastures after getting fat upon grass. They are also of strong constitutions, shear heavy fleeces of a splendid quality of wool, which is usually very gummy, more so than any other breed, and consequently their woo will lose more in cleansing than that of any other breed of sheep. But as long as manufacturers will send out agents who will pay as much for gum as wool it will be well enough to let them have as much of it as possible! The Spanish, being of less size, will also bear short keeping better than the French. But no person should calculate to keep more than he can feed and do it well.

Every farmer commencing the business should be careful in the selection of a flock. Either of the above breeds will pay a good profit if well taken care of. And I will remark here, that every farmer who intends to try the raising of sheep must give them the care and attention that they require or he had better let the business alone.

It is the custom of every flock master, or should be, to sell the poorest of his flock, which will consist of different ages, form and size. But for beginners it will be much better policy to buy young sheep, all of the same age, and of good form and size, and of an even fleece, even if a much higher price is paid, than to take a flock of old and young and of uneven quality of wool, at a much lower figure.

WINTER MANAGEMENT OF SHEEP.

Whenever grass begins to fail, the sheep should receive a little grain once a day. It is bad economy to let them begin to run down at the beginning of winter. They should always be kept in good condition, for it is an impossibility to get a heavy fleece of wool from a poor sheep. And it should be borne in mind that wool is only growing while the sheep are in a thriving condition. They require one quart of corn per head a day, with the fodder, or fed on hay or kept upon good grass pastures, they will not require so much. It is always necessary to keep the lambs by themselves. When they are weaned they should be turned into meadows and have plenty of running water. They should be taken from their mothers at about five months old. It is a difficult matter to learn them to eat corn.

The best mode I have found for wintering lambs, is this: I plant a portion of my corn adjoining my grass land, and when it becomes necessary to feed I turn them into both grass and corn for a week or two. They should only be allowed to run in the corn about one hour each day, until they all get used to the food. After that they can be allowed perfect liberty to run upon either field. They do much better in this way than when fed, and will not waste any more corn. Sheep eat corn in a different manner from other stock. As fast as they shell it from the cob they pick up the loose kernels before shelling any more. They will eat a little more by this mode of feeding, but the extra amount of wool they will shear, and the extra growth they will acquire, will richly pay the difference. Yearlings should be kept and fed by themselves. Their teeth are weak and they will not get their share if fed with older stock.

The buck should not be allowed to run with the breeding ewes through the winter. They often strike them with their horns and cause them to lose their lambs. They can be kept by themselves, or turned with the wethers. In Central Illinois sheep are frequently fed in flocks as high as 1,000 or 1,500, but I do not think that over 500 or 800 should be kept together. They should be fed at regular hours, and should always be fed an hour before sundown, so that they can eat before dark. They do not like to feed after night. They should never receive more than they will eat tolerably clean.

The shepherd should always watch his flock closely, and when he sees that any one is not doing well from any cause, should remove it to the hospital. It is always necessary to have some place where such sheep can be properly taken care of. Ewes should be bred in November; the time of gestation is five months; and the common practice of turning the rams into the flock and letting them run promiscuously through it is wrong. Several rams running in the same flock excite each other to unnecessary activity, besides injuring each other by constant blows. It is every point of very bad husbandry, and it is destructive to everything like careful and judicious breeding.

Every wool grower should have convenient yards and pens for handling his sheep. The breeding ewes should be brought into the yard once a day, and one or two strong rams, well aproned, turned into the flock, and such ewes as are ready to breed can be taken out and bred to such rams as are best calculated to impart to their progeny the improvements that are desired to be obtained. A different mark should be put upon the ewes for the several rams that are used. By this mode every ram can be thoroughly tested as a breeder; and in no other way, where there is more than one ram used, can any man have that knowledge and pedigree of his flock that every breeder should have.

Ewes should have their lambs about the commencement of grass, and then as the grass and milk increases the lamb will also have

age and strength to receive it. Particular attention should be given to the ewes at this time. It frequently happens that they have more milk than the lamb can take for a few days, while young, and unless the ewe is milked, her udder will swell and inflame and she will refuse to let her lamb suck. The consequence will be the lamb will die, the mother, perhaps, will lose her wool, if not her life, and be destroyed as a breeder. Whenever a strong, healthy ewe loses her lamb, she should receive another, either a twin or one taken from a weakly sheep. It is generally necessary in such cases to shut them up in a small pen for a few days by themselves. Another mode is to skin the dead one and tie the skin on the lamb you wish the ewe to take. I never knew this to fail when done in time. Lambs should be castrated and marked at about ten days old. They do much better at that age than older, and should not be driven far or fast enough to heat them before the operation.

Ewes and lambs should be herded by themselves, and should always be driven carefully through gates or bars, and not allowed to crowd—for lambs are often injured in this way.

The best mode of washing sheep is in vats. The wool can be got in better order, because there is no danger of getting sand or muddy water into the wool in getting them out of the vat. Another advantage is, that nearly every wool grower can wash on his own farm. The common practice of driving to some stream, perhaps four or five miles away, is very troublesome besides expensive, and generally at that season of the year it is very dusty, and when the sheep are got back to their pasture again, with the exception of the oil which is taken from their wool, they are nearly as dirty as when they left it. Dams can be made across almost any small stream and sufficient water obtained to wash 1,000 or 1,500 a day. The water should be carried through the dam in two troughs, of about ten inches wide, and should have about one foot fall. The sheep should be put into the vat at the lower end, and then soaked and washed through different hands to the upper end, and there rinsed off under the troughs, by experienced washers, and put out upon a plank platform to drain, and, until shorn, should be kept upon clean grass pastures.

It is supposed by some that sheep are ready to shear as soon as they are dry. But this is a great mistake. Shearing should not commence until the oil begins to strike into the wool again. For until that time the wool is dry and harsh, and will cut hard, has not that soft and lively appearance, which will add so much to its beauty, and also make it more salable. If the weather is suitable, they will be ready to shear in six or eight days after washing.

Sheep are generally shorn upon barn floors, which should be kept well swept and clean as possible, so that the wool may be kept clean. After the fleece is off it is taken to a bench, where it it is spread out with the outside up, and worked together as firm-

ly as possible. If there are any burs or tags upon it they should be taken off, then the ends and sides thrown in so as to leave it about two feet square, then all the loose locks are put into the centre, folded together over each way and the fleece tied up. Wool should be packed firmly in some clean, suitable place, where no dust or straw can get into it, until it is put into sacks ready for market.

ON RAISING HORSES AND MULES IN ILLINOIS.

By Phil Warren, of Sangamon County.

The raising of horses and mules is a very important and lucrative business. The horse is the most intelligent, as well as the most useful and valuable animal on the farm, and if his merits and value were fully appreciated by the farmers of Illinois, they would engage more extensively in raising horses.

Very few farmers in this State make a regular business of raising horses and mules. It is done mostly in a small way by those who keep just mares enough to cultivate their land. This is well enough, but the raising of horses and mules is a business that pays well of itself, and it is somewhat surprising that farmers do not turn their attention to this branch of stock raising, especially when they have the advantage of our rich prairies for grazing purposes.

We have three classes of horses in this State—the thoroughbred, draft, and roadster. The thoroughbred is undoubtedly the most perfect of his species, possessing more beauty and symmetry of form, more style and spirit, than any other kind, and is invaluable to the farmer to cross with our native and grade mares.

The draft horse I consider of very little use to the farmer, being too heavy and sluggish for the road or even ordinary farm purposes; yet some deem the draft horse the best for farm purposes.

The roadsters I consider the most useful to the farmer. They are capable of doing all kinds of work, and can do more plowing or hauling on our level ground than the draft horse, and are always ready for the road. Our best roadsters are produced from a cross of the thoroughbred or Morgan stallions with grade mares. If the dam is possessed of sufficient size, bone and muscle, I prefer a cross with the thoroughbred stallion to any other. The offspring will generally partake of the size and form of the dam, with the spirit and action of the sire.

For breeding purposes, then, I would select mares fifteen and a half to sixteen hands high, possessing plenty of bone and muscle, well turned, but not compactly built, full chest, round body, high withers, sloping shoulders and small bony head—to which I would breed a thoroughbred race horse, not too fine, but possessing all

the points of a highly bred horse. The result of the above cross will be a class of superior roadsters, (in England called fox hunters,) which are capable of doing all kinds of work, and can endure more hardship than any draft horse eighteen hands high. From this class of horses we select those possessed of the finest form and action for the carriage and saddle.

Mares in foal should be well cared for during winter. They should be kept in a dry lot, furnished with good warm sheds, and should be fed and watered regularly every day. Shock corn well cured is very good feed during winter, but in March and April I prefer cut oats with a little corn. The best time for mares to foal is during the months of May and June, when they can be turned on good pasture if not wanted for use. The first of October, colts should be separated from their dams and turned in good blue grass pastures. Where several colts are turned together they soon forget their dams. It is more important to feed your colts well the first winter, than at any future period, for if badly wintered they will not recover from it for years. Colts should be well fed and sheltered during winter. Sheaf oats cut up and fed twice a day is very good feed.

Colts should be handled at two years old, and worked a little at three years in breaking up ground, and at four years old they may be considered ready for work or for sale. At four years old if well broke to harness and good movers, they are worth from one hundred and fifty to two hundred dollars, and frequently sell as high as five hundred dollars. If of the finest form and action and well matched, they will sell from $800 to $1000 a pair.

Mules.—Mule raising is much more profitable than horses. They are considered more saleable for the farm, for the reason they can endure more fatigue and hardship with less food than the horse, and may be considered ready for use at two and a half years old.

Mule raising is carried on very extensively in Kentucky, where land is worth one hundred dollars per acre, and the best thoroughbred mares are frequently used for raising premium mules. For raising mules, mares should be selected with regard to size more than beauty. They should be sixteen or seventeen hands high, rather long and roomy in the body, broad across the hips and heavy bone and muscle. Such a mare bred to a No. 1 Maltese jack, produce our largest and best mules, for which we find a ready sale to the southern planter at two and a half years old.

The mule should be kept up from the time it is six months old until ready for market. Great care should be taken with the mares before foaling. They should be allowed to run out, but furnished with plenty of warm shedding and fed and watered twice a day. Cut oats and a few ears of corn is the best feed for mares from February to grass. The colts at six months old should be put up in a dry lot, with plenty of shedding, and fed on cut oats and crushed corn, regularly, twice a day. Shock corn well cured is also very

good. Furnish plenty of pure water and your colts will come out in fine order in the spring. The most profitable way of keeping mules during the summer is to keep them in a close lot and feed on green clover cut and hauled from the field twice a day. Mules kept in this way will grow faster, keep fat and consume less feed than when permitted to run at large in pastures. The following fall they should be fed on crushed corn and cut oats regularly twice a day. Shock corn is very good and perhaps the cheapest feed, though I prefer good sheaf oats, mixed with crushed corn, to any other feed. Mules should be treated in the above way until they are thirty months old, when they are ready for market and sell readily at $150 to $200.

I will now give the actual cost of raising a mule:

A good mare is worth $150—interest on that,	$15 00
Cost of keeping a mare one year,	15 00
Services of a good jack owned by the farmer	5 00
Cost of keeping mule first winter,	6 00
" " " during summer,	6 00
" " " second winter,	9 00
" " " " summer,	8 00
" " " three months, up to January,	6 00
Actual cost of mule at 30 months,	$70 00
Real value " " "	150 00
Net profit,	$80 00

The above estimate will pay the farmer fair prices for the grain consumed, and shows a profit of $80 per head, which pays as well if not better than any other stock raising.

ON THE EMBELLISHMENT OF A COUNTRY HOME.

By Miss Frances E. Willard, of Janesville, Wisconsin.

[FIRST PREMIUM.]

Were this age less utilitarian, this article need never have been written, and its subject would have been already brought from the ideal world, with which every man has communings, to the real world, in which every man labors or ought to labor. Had our subject received far more attention at a far earlier day, not so many of the youth of our land had left their homes for adventure, and, we must add, in too many cases, for failure. Not so many hearthstones had been left desolate—not so many Rachels had been mourning for their children; for, on looking back from effect to cause, we see, in many instances, unattractive homes and rayless firesides as the perhaps unsuspected but no less real cause of this unfortunate desertion on the one hand and this lonely regret on the other.

Make home a pleasant place, and your children will not leave it. You yourself will live longer, faster, better. Your old age will be brighter, and you will ever feel the impetus for good thus given. This needs no proving. Your heart said "yes" as you made these thoughts your own.

Now, if this is a matter of such importance, it behooves every one to think and act upon the subject. To some suggestions on this point, and upon the ways and means by which so desirable an end is attainable, this article shall be devoted.

The senses of sight, hearing and smelling, to reduce our ideas to first principles, are addressed, and are to be pleased or otherwise, in the surroundings of a home. To make the effect pleasurable, the eye must be furnished with a view of grounds, tastefully laid out; buildings of harmonious proportions and colors; various shades of foliage, furnished by different kinds of trees; flowers, with such hues and tints as blend softly with surrounding objects, and, all

combining, to give a tranquilizing effect to the beholder. This, surely, in part, constitutes embellishment.

With respect to the sense of hearing—whether the ear is pleased or otherwise—depends upon the character of the establishment one is approaching.

If hogs grunt from beneath the windows, cows make music from the garden, sheep bleat from the roadside or cocks crow from the ridge-pole, manifestly these sounds would not be sonorous, under the circumstances, however interesting they might be in their proper places. So of the third sense. If the air is redolent of "reminders" of one's proximity to the stable or pig sty, in that department, evidently, the hand of embellishment has never worked its magic wonders.

Our aim is to show how those effects which are undesirable may be avoided, and those which are pleasing may be secured.

First, the embellishments of a country home, as regards sight. These occupy the widest range. Of these are the pleasures afforded by a garden, tastefully laid out, a fine lawn and a well planned suite of buildings.

If you would have a beautiful home, surround it by trees. Sprinkle, not sparingly either, evergreens around your buildings; so shall your surroundings be always life-looking, nor shall winter destroy the charm of your grounds, nor shall your eye rest only upon leafless branches, continually saying, as the cold north wind sways them to and fro, that the "time of the sear and yellow leaf has come;" but an evergreen shall speak of life, of hope, of spring time and give a thrill of joy even in winter. Then plant trees, and do not forget to plant, here and there, an emblem of perpetual life. Of this variety of trees, we have found the balsam, pine and arbor vitæ to flourish best in our climate. Of other trees, oaks, maples, poplars, locusts, chestnuts and the mountain ash are sufficient, though the more additions time and money will enable one to make to our list the better.

Vines we consider indispensable. There is no danger of injuring the walls of a house by covering them thus. It is a mistaken idea. With our sunny climate, they are rather a protection than otherwise. We have succeeded best with honeysuckles, grape-vines and Virginia creepers. They are hardier and more readily obtained than the tender and more "fancy" varieties.

Of shrubs—snowballs, syringas, lilacs, upright honeysuckles and roses.

Of bulbs—tulips, peonies and lillies are easily tended, and are real ornaments. We presuppose that farmers cannot devote a great share of time to the culture of these "extras." Have annuals, if you can afford sufficient time for their cultivation, and what farmer's wife will not endeavor to?

This department of adorning should not be undervalued. Many farmers, we are aware, regard trees and flowers as of very little value; but, in reality, they are of so much importance, that

their absence cannot be compensated for by any amount of additional effort which may be bestowed upon any other branch of embellishment.

Of the fence surrounding one's grounds, we believe, as a general rule, a paling fence, painted white—the chosen color of New England—is preferable. Plant trees promiscuously outside your fence, and white seen through green and shining upon green, forms a most agreeable contrast.

Have either gates or stiles for entrance ways. For fastenings to gates, we have never seen a more simple contrivance than that made by driving a post firmly into the ground, attaching to it a chain, with a weight of some sort in the middle, and fastening the other end of the chain to the gate. The annoyance so often met with of gates left open, and animals disturbing the grounds, is thus avoided.

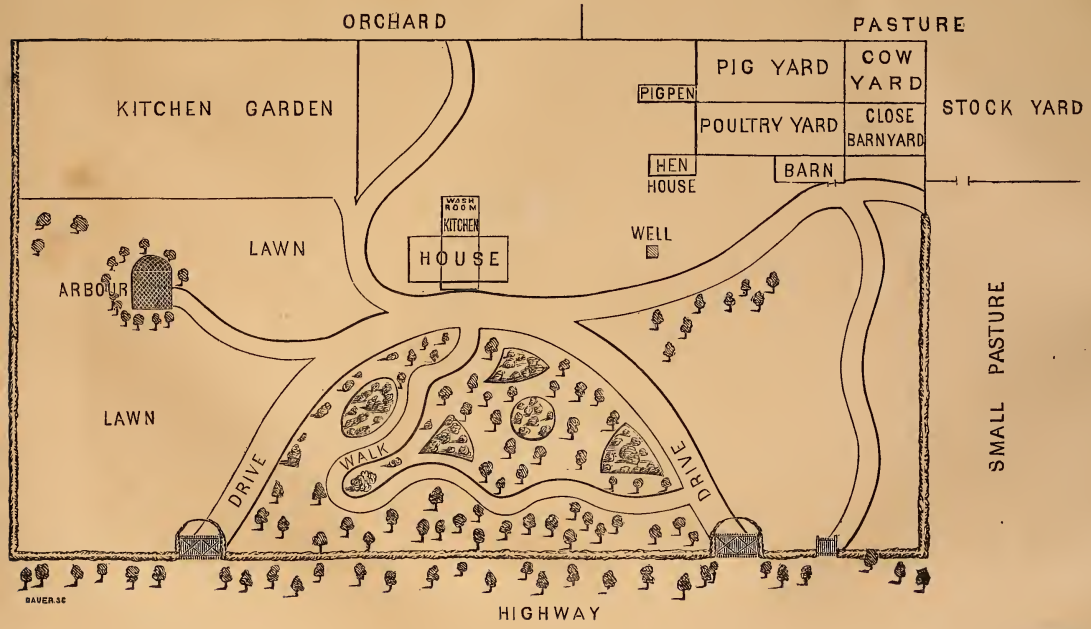
Gravel walks seem to give more general satisfaction than any other. As it is an axiom that a curved line is more beautiful and harmonious than any other, curved walks are preferable to straight ones. Thus the approach to the house becomes a continual unfolding of new sights and pleasant surprises. One does not take in the whole plan at a glance. As he advances up the path, (endeavor to have your grounds slope road-ward) unexpected pleasures meet him at every step. Here is a rustic seat, there a little arbor, beyond a tiny grove—the home of robins and orioles; then a tree taller than its fellows claims attention, till finally the house is reached—the heart of the home is seen—the nest so charmingly surrounded.

We think there are few farmers on our broad prairies who cannot afford at least four acres for a lawn, garden, &c.

Have, then, a fine, closely shaven lawn. In it arrange your trees, shrubs, &c. Make one rule: in this timberless country never cut down a tree unnecessarily. If its shape is ugly, it may, by judicious "trimming," be remedied to a great degree, and, aside from utilitarian views, it is treason to banish those hardy aborigines, the oak, poplar and their fellows, from their lawful, long-possessed domains. There is no danger of having too many trees; this is almost an impossibility. Do not trim trees far above the ground, if at all. A tree trimmed to the shape of a lady's opened parasol, is a most pitiable and distorted object.

Carriage drives are a great convenience, both on account of their beauty and utility. A well located drive is given in the accompanying plan of grounds.

An arbor or two in one's garden is a great addition. They are easily made—the more rustic the better. Branches of trees with the bark on, a table made of rough branches covered with a rough board, seats around the sides, vines growing over the exterior—that is all, cheaply made, but a life luxury. A rustic seat, made of moss—sofa-like, but better than a sofa—at the foot of a tree, and a few rude chairs, made from those same rough branches,



[Face page 469.

would be an addition—at least the tired farmer would think so, we surmise, when resting thus under the shadow of his own vine and fir tree, after a day of toil.

We have now reached the house. Ours "faces" eastward, and we often congratulate ourself that it does. It makes the sitting room cool and pleasant in the afternoon, and the kitchen cool and pleasant in the morning, when the work is going on and sunshine would annoy us.

We always liked verandas, with vines over them, grape vines too, if we were permitted the suggestion.

Fire places we always cling to. They make home homelier in one sense—less so in another.

A large, dry cellar and well ventilated apartments are indispensible to both health and happiness.

We believe story and a half houses are preferable for the country. A high, mansion-looking house suggests to the mind a town or city, a thought, which in such a connection, is extremely out of place. We consider stone to be the best material for a house, that is if you intend to build one which shall stand as an example for posterity—that you are willing to have stand. If your house is of stone it will need no painting, if of wood some neutral color is desirable when the house is large, but if it is small and embowered among trees, white gives a charming effect.

Further than we have we will not penetrate into the interior arrangements, more than to say, have your furniture, cozy, comfortable, common. Adopt the last half of the motto of a certain gentleman of the world, who said, "When I build a house for show, I build it for show; when I build one for comfort, I build it for comfort"

Passing to the barn, we shall hope to find things arranged for convenience. Add to this "a place for every thing, and every thing in its place," and an observatory, from which to take a view of your farm at a glance, and see if "the boys" are doing as they should, or if any marauding cattle are encroaching upon your premises, and we have done with this department, except to add that the additional expense of such a fixture as we have mentioned upon a barn, will pay for itself in one year by the *mileage* it will save.

We will now introduce our plan, to show what has been considered a good arrangement for a farmer's surroundings.

[See Engraving.]

By the arrangement here represented, a large amount of convenience is secured, at a comparatively cheap rate.

The yard in front of the barn should be seeded down and used only as a rendezvous for the teams, &c., preparatory to going to the fields.

The cattle yards should be dry and large. If the animals are sheltered instead of stabled, the shelter should face the south. The fence surrounding this yard should be high and tight.

Swine ought not to be allowed to run at large, except perhaps in acorn time. They should be made comfortable and happy at home, which can be done by furnishing them with plenty of food and drink and straw to sleep on.

The poultry yard should be picketed, and the fowls should not be allowed to visit the lawn or the garden, though they may be permitted to run at large back of their own yard. There can be no greater nuisance than to have fowls ranging where they will, and few greater additions to a farm establishment than a well selected, well *governed* yard of poultry.

The location of the well is a good one, being equally accessible to the barn, poultry yard and house.

The kitchen garden must be ample and of great variety. There are few things more inconsistent than for people who voluntarily renounce the conveniences and pleasures of a town for a country life to deprive themselves, through sheer neglect, of benefits so accessible and so desirable.

The planting of an orchard should not be deferred. (We are aware that we are now encroaching upon the domains of the sense of taste, in the opinion of some of our readers!) The trees will grow while their owner is sleeping. His time and attention will be only occasionally required to insure their growth and prosperity, as far as he can aid them. The labor is small, the luxury, the *profit* very great. Do not neglect this important branch of agricultural economy.

It is manifestly a convenience to have the pasture back of the barn. But if one has no pasture? Locate your *gate* where we have ours, and "hope for better things" ere long.

Swine should be kept as much in the "back ground" as possible. Indeed, all animals should have their "sphere of action" in the territory back of the barn. It is just as economical and far more pleasant. And there is no necessity for having the stacks of grain placed on a range with the house, injuring irreparably the effect, and adding nothing to the convenience, that is providing the grain is drawn to the house, which should always be the case. The danger of its being destroyed by fire is far less, especially as long as the custom of annually firing our prairies continues. No time is lost in the process of drawing grain "to the house," which the time gained by being so much nearer home during threshing and storing time will not balance. Besides, the labor of drawing straw for the use of stock is saved, and the manure made by the decay of it is in an available position.

Having mentioned the principal ways in which and by which the king of senses is to be supplied with evidences of embellishment, we come to the next sense, which is to test the taste exercised in the arrangement of a country home, viz:—hearing. This field of inquiry is not so extensive as the one just surveyed. Sounds about a farm may be agreeable, which in a town would be of quite a contrary nature.

The bleating of sheep, more from the associations it brings of shade and pastures, than from any real melody in it, is a pleasant sound. The lowing of herds, the neighing of horses, the barking of dogs are pleasant sounds in their sphere, but out of it are no more suitable than "Yankee Doodle with variations" would be, pealing from a piano-forte in the heart of a dreamy forest.

But the prime object in this particular is the singing of birds. This, at least, is cheap enough. It costs only a little corn, the absence of gun firing from the vicinity of the house, and groves in which the birds may nest. Then you have your orchestra "without money and without price;" your concerts of a choicer music than a Lind or a Parodi could discourse, and the inspiration of nature too. Provide your own musical entertainments then, and they will soon become indispensable to you.

With respect to the third sense mentioned. Placing the outbuildings in the positions designated will banish all disagreeable odors, while the perfumes of flowers, the freshness of grass and the aroma of a pure air, will take their place. We do not consider it as our province to speak of the many ways in which a well regulated system of occupation, as studies, gardening, &c., will contribute to the happiness and contentment of the inmates of all "country homes." Of the importance of these, and many other things more strictly pertaining to the internal affairs of a home, our readers are aware. We aim not now at giving hints beyond the "outward seeming" of embellishment. Of that higher, holier beauty—the beauty of a pure life and honest purpose—it is not ours to speak. Yet this is as needful, and even more needful to the attainment of perfection in a home than anything we have mentioned. Anything, be it moral, educational or ornamental, which is said, or sung, or written, the object of which is the advancement of the *home* interests of our nation, is a noble endeavor for a noble cause. Man is tossed here and there upon the rough billows of life like a ship at sea, but he is never at rest, never at his destination—still like the ships, till anchored trustingly in the quiet of home. Men prepare costly havens for ocean's leviathan wanderers—no expense is spared, no labor denied, to make them safe, secure and tranquil. Coast cities vie with each other in improving their natural harbors, and the city whose harbor is best receives the largest share of commerce. The situation of man and home is parallel to that of ship and harbor. From the one let us derive lessons for the benefit of the other. As "Heaven" is the watchword for Eternity, so is "Home" the watchword for Time.

ON THE EMBELLISHMENT OF A COUNTRY HOME.

By Mrs. R. B. Hatch, of Griggsville, Pike County, Illinois.

[SECOND PREMIUM.]

With the word home, is associated the earliest of life's recollections, and almost every man, every youth, who does not now possess a home in reality, possesses one in imagination—he will yet have a home, one that will come up to his ideas of what a home should be, and when he promises himself a country home, how beautiful it is to be, always summer, always cool and shady, always happy, where wife and little ones may live in the highest state of enjoyment; and to make a few suggestions as to how far this castle building may be carried into reality, is the purpose of the present article.

And first, every man may have a home. Above all lands on the face of the earth is America favored in this particular respect, that every man by the labor of his own hands may own some part of the soil, and build himself some kind of a house; and this it is which induces the emigrant to sever the nearest ties, and break up all the associations of childhood, and come to our land, that he, and his children after him, may own a home.

To have our homes what they should be to meet the eye of taste, we all need a better idea of the fitness of things. There is no reason why the house which costs from $300 to $500, sitting upon land bought at Congress price, should not display as much true taste, neatness and order in its surroundings, as the $5000 house, placed upon land valued at $50 or $100 per acre. In fact, the cheap house might stand a chance to look the best, as many a "*woman* in calico looks better than another in satin."—(Col. Benton.) Because a man is a farmer, or a countryman, is no reason why his house should be low, unpainted, uncomfortable and inconvenient, his front yard a cow yard, and the back yard or grounds around the back door filled with rags, bones, chip piles, broken hoe handles, old plows, bits of harness, refuse shingles, old mortar beds, ash

barrels, worn out pots and kettles, old boots, etc. Neither would a house in imitation of the castellated villas built upon the Hudson, with their fancifully laid out pleasure grounds built for the country homes of millionaires, be fit for our farmers and country friends to imitate. We desire to be neither coarse or *finicky*. We own our own land and pay for our improvements. "We have a right to build just as we please"—and for that very reason let us please to build properly.

In all parts of our State, the very garden of the world, there is enough variety in the scenery to select beautiful building sites. Where taste and convenience may combine, the house sits high and airy, with fine views; the barn lower than the house, and placed with care, that the breeze which we gratefully welcome in summer may not bring its odors also to us.

As a general rule, a house should always set back from the street, in order to have a lawn in front. This is more pleasing to the eye with a gentle slope, than if level. With regard to the house: It is now the fashion to beautify, and the danger is that we shall embellish at the expense of taste, and that from plain, out of proportion, straight, perpendicular houses, full of glass, straight, stiff walks, rows of poplar trees and red barns, we shall go to the other extreme of fanciful inconvenient homes, with gingerbread work in every conceivable place, serpentine walks leading nowhere, sickly evergreens and dwarfed trees, and octagon barns, fit for any purpose but to stable horses and shelter cattle.

Now let us suppose that you intend building. Remember that *beauty does not depend upon expense.* Look your land over well, select the most eligible building spot, think of all you wish for in building before you decide where you will have your barn and other out houses, then have your plan well thought of and put down clearly and distinctly upon paper. Consult your wife about it, your children if they are large enough; all have an equal interest; and the house we help to plan, and the tree we help to plant, we always take a different interest in from any other. Make as correct an estimate as possible of the expense; be sure and put everything down at a high enough rate; don't attempt too much at first, but build in such a way that you may make such additions as you wish afterwards; think what kind of a character you wish your house to put on. Shall it be a plain, practical, well made house? Shall it be a large mansion, with outside and inside artistical decorations, "as good as anybody's?" Shall it be a snug, modest cottage? Endeavor to carry out in detail your idea, whatever it is. If you must wait for shade trees to grow, let the house be built so that it will look well without the aid of trees.

And now we come to the grounds. In the first place take advantage of all the natural advantages you have. *Change is not always improvement.* If you have a grove do not cut it all away and leave your house unshaded for years. Where are there more beautiful trees than our native forest trees? Do not fill all the hollows

and bring the ground to a dead level. Endeavor to keep everything in perfect order about your grounds, especially those parts which first catch the eye. Too much shade does not look well and is not healthy. I think no house can be healthy which the sun does not strike fairly some part of the day; besides the grass does not do well beneath too much shade; and deep thick grass looks better than anything else the eye can rest upon, if neatly kept. Where the house is, as the first mentioned, roomy and substantial, the yard should be spacious to correspond, having a neat and durable fence, fine large trees, not in rows, but as nature sets them, not too much trimmed up, still enough not to intercept the view. Say elms, oaks, the different kinds of walnut trees, the buckeye, and the beautiful maples, the sugar and the silver leafed; the catalpa, the linden, the weeping willow, and so on. The above which I have enumerated are large trees, of rapid growth. Perhaps for quick growth of shade some would prefer the locust, but others have a great dislike to this tree because it is almost impossible to get rid of it after having once introduced it into a place.

Do not plant fruit trees for shade trees; they are not suitable, (unless one's place is so small that he has no other resource,) still be sure to have fruit, but have it in the right place. This kind of house now under consideration might have wide and roomy but plain porches, verandas, or piazzas, as you choose to call them; and here can be trained a variety of climbing plants and running roses, or the rich grape vine, which can never come under the ban that excludes fruit trees from the ornamental part of the grounds. When the Isabella or Catawba grapes are grown over porches, summer houses, or covered walks, what can exceed their beauty, with their deep green leaves, graceful tendrils, fragrant blossoms, and heavy clusters of luscious fruit. Over the out buildings might be trained the wild trumpet vine and other showy climbers.—Among our native climbing plants the Virginia creeper is one of the most beautiful, hardy, easily transplanted from the woods, and universally known; it clings firmly against a wall, is not injurious to a roof, and is a close and effectual screen.

Flower beds, annuals I mean, are hardly in keeping about the front of a house, as there is so small part of the season when they really cover the ground; but the modern fashion of placing here and there amid the grass small beds of one kind of flowers, in masses, is very pretty. A bed of portulaccas, another of verbenas, another of petunias, &c., and also clumps of monthly roses.—They contrast handsomely with the grass, bloom all summer long and cover the ground closely. I have dwelt longer on this kind of a house and lawn than perhaps I ought, and will be brief with the others. Happily, tastes differ, or we should be condemned to a monotonous uniformity in dwellings and grounds which would be tiresome to look upon, and for very sameness impossible to enjoy. Yet to my mind this class of house seems to blend happily the social characteristics that are to be experienced in a true country

home—domestic happiness, true comfort, convenience and sociability without formality.

The more pretentious mansion, built in any of the various styles of modern architecture, will admit of much greater variety in laying out the grounds and following the leadings of a fanciful taste, therefore but little can really be said with regard to its embellishments, except perhaps to remark that over this kind of a house should *not* be trained climbers to any extent, however beautiful and rare, because the work of the architect is not to be covered, and the place for such things will be appropriately found on trellised walks and arbors. Here we may have, too, all varieties of trees and shrubs, large and small, in groups and clumps, and bordering meandering walks—alder, accacia, aspen, willow, mountain ash, and so on.

With this kind or style of place there is no limit as to decorations and surroundings, save a man's purse and inclination. If symmetry and good taste are observed, a house cannot be made too beautiful, too much of a palace of beauty, though it may be too much so for the means of the owner, and it is a question whether in a country where fortunes are so fluctuating, where homesteads seldom if ever descend to the third generation, whether it is wise or expedient in a citizen of our republic to expend $60,000 or $100,000 in a house.

And now for the cottage. Every one's imagination at once paints the cottage home a low, pleasant looking house, half hidden by honey suckles and sweet briar, a small yard with lilacs, clumps of altheas, a fringe tree or Venitian sumac, waxberries, sweet scented shrubs and roses everywhere. About the back doors, side porches or out houses of the cottage and the "practical house," a well trained hop vine suggests ideas of beauty and usefulness, and most persons like its peculiar fragrance.

GENERAL REMARKS.

About any style of house, roses look beautifully. Some of them need to be well cared for in winter. A clump of tiger lilies are showy and pretty, near a walk. The wild indigo, which grows so plentifully in our prairies, with its pea-like blossoms and singular shade of green, is a pretty shrub, but a poisonous plant, and should not be tolerated where there are little children. The phlox, tended with care, grows quite large and handsome. Syringas, snow balls, burning bush, mezereon, Missouri currants, and waxberry, are all ornamental shrubs.

As a general thing evergreens do not succeed well in this part of the country; but when they can be made to thrive they are beautiful and pleasant to look at in winter.

Among large trees, chestnuts do not grow well here; the soil is too rich.

Hedges do not come within the scope of this article, except to say that it is exceedingly bad taste to set them in front of a house.

Shall I be stepping out of the path to say that the house will have one great deficiency in its arrangements, if no provision has been made for a play ground for the children. To have it a country home in the true sense of the word, let them have their share of the grounds, though in a more retired part. Let them have an interest in the flower garden, seeds, tools, and a place where they may transplant from the woods and the prairies. It need not, in fact should not be in a prominent place; and then the natural want of regularity in the young beginners will not disturb any one, and they in after life will look back with warm hearts and gratefully bless the forethought that provided them such pure pleasures, and kept them out of bad company.

Every man should feel that the street in front of his premises is his particular charge. He should plant trees, (and box them, that his labor may not be lost,) leaving a spacious walk between them and his own boundaries, being careful not to crowd them, that they may grow up in their natural beauty; and beware of too much hacking with axe and saw, sometimes called trimming. He should feel it his place to remove all obstructions, and render his home attractive to passers by without his grounds as well as to those who enter.

Finally, the man who improves his place aright, who encourages public spirit, by improving the street, and the like, is of great value in the community where he lives. His example teaches far more than anything he could say. He enhances the value of property all around him. He raises the reputation of the town where he lives; and if he, or rather if *we* thus beautify our homes, and make pleasant spots for others to gaze upon and for our friends to enjoy, we elevate the standard of taste, refine the views and perceptions, and soften the heart more highly to appreciate the beauties of that heavenly home, of which it hath been said, eye hath not seen, ear hath not heard, neither hath it entered into the heart of man to conceive the things or beauties which God hath there prepared, in that last, great, Eternal Home.

Note.—It may be objected that I have said nothing of the embellishments of a country home for the winter. In winter the *inside* of a house is the chief spot of enjoyment, and the best embellishments consist of a pleasant fireside, willing and loving hearts and cheerful spirits prompt to take hold of the duties of every day life, without esteeming these duties *drudgery*—an obliging, unselfish spirit in the home circle, and a taste for improving the mind, by finding means and leisure to read, and otherwise improve a little every day.

ON THE CULTURE OF FOREST AND ORNAMENTAL TREES ON THE PRAIRIES.

By O. Ordway, of Lawn Ridge, Marshall County, Illinois.

[FIRST PREMIUM.]

In no part of the world has nature provided more abundant resources for the support of an enlightened, free and prosperous nation than in our own country. Here the facilities for human enterprise are exhibited on a scale of surpassing grandeur. Not only is our country pre-eminent for the magnitude of her lakes, rivers, fertile prairies, and mineral wealth, but for the variety and magnificence of her forest trees. These have been in especial request, to enrich the collections of trees from all parts of the world, in the far-famed gardens of Europe. About one hundred and fifty species of native forest trees have been enumerated in North America, while but little above one-fourth this number are indigenous in Europe. Upwards of seventy species, belonging to Illinois, are mentioned in the second volume of Transactions of the State Agricultural Society.

The importance of our forest trees, so essential to the development of our other physical resources, can scarcely be over estimated, and the extreme rapidity of their disappearance, with the disproportionately limited efforts made for replacing them, are matters for serious apprehension. It has been estimated that, at the present rate of decrease, all our available timber trees east of the Mississippi will disappear in less than fifty years. Startling as is this assumption, we need only to have witnessed the havoc the last few years have made among the trees of our own State to perceive that it is not without foundation. Such is the magnitude of this threatened evil that too much cannot be done towards calling attention to the importance of providing, as far as may be, for future exigencies. Our country, dismantled of its forest trees, would be like Sampson shorn of his locks. A sound policy requires not only

that preservative measures should be enforced, as far as practicable, to avert the exterminating process so extensively pursued, but also that the cultivation of forest trees become a prominent branch of industry.

The practice of arboriculture upon the prairies, on a scale commensurate with its importance, for purposes of embellishment and rural economy, is destined, we believe, not only to produce a transforming effect upon their general appearance, but also to increase the variety and productiveness of other branches of agriculture. The exposure of this western valley throughout its vast extent to winds from every quarter renders it subject to sudden and extreme variations of temperature. The necessity of planting trees upon the prairies as barriers of protection is therefore sufficiently obvious. The agency of trees in ameliorating the rigors of climate is much greater than is commonly supposed. In the yearly range of temperature a difference of nineteen degrees has been found between the open ground and forest. The continuance of snow upon the prairies during the winter season would be favored by a judicious distribution of trees, thus preventing a vast amount of winter killing in our wheat fields, meadows and orchards. The amount saved in our crops from the ravages of the wind and other blighting causes, at other seasons of the year, would alone more than compensate the labor of cultivating belts of trees for protection. We need trees also to equalize the moisture of the climate, thus materially obviating the inconveniences now suffered from the seasons of excessive drought and humidity, to which such a vast amount of unprotected surface renders these prairies so subject.

Shade trees are among the first requisites of our pastures, and the absence of them, so commonly witnessed, betrays culpable negligence no less than a thriftless economy. That poverty of spirit which grudges any outlay of time or labor of which one cannot personally reap the immediate benefit, is more to be dreaded than actual want.

Before the prairies shall assume an appearance worthy of their capabilities, it is requisite that more comprehensive views of the privileges and responsibilities involved in ownership of the soil, be generally adopted. "Man," says Hugh Miller, "is a mighty improver of creation. He is the only creature of whom we know anything, who has set himself to carry on and improve the work of the world's original framer—who is a planter of woods, a tiller of fields and a keeper of gardens—and who carries on his work of mechanical contrivance on obviously the same principles as those on which the Divine Designer wrought of old." These prairies seem as if purposely left by the Creator for man to impress upon them his own ideas of convenience and beauty. Here human taste and enterprise must in a great measure supply that variety of outward scenery, which constitutes a principal source of our enjoyment; and no where else has nature more fully prepared the way for im-

mediate success in agricultural pursuits, and especially in the growth of trees and shrubbery, which admit an unlimited diversity of forms and combinations.

In selecting the kinds of forest and ornamental trees for planting, it is preferable, ordinarily, not to attempt too great a variety. There are enough, easily accessible, comprising all desirable qualities, such as hardiness, value for timber and fuel, rapidity of growth and adaptation to purposes of shelter and embellishment.

In preparing the ground for the cultivation of trees, the soil should be trenched or thoroughly plowed—the deeper the better—and well pulverized. Draining is always beneficial, and in many instances indispensable. The advantages of draining are thus summed up by Johnson, (Agricultural Chemistry:) "1st. It is equivalent not only to a change of soil, but also to a change of climate, both in reference to the growth of plants and to the health of the population. 2d. It is equivalent to the deepening of the soil, both by removing the water and by allowing those noxious ingredients to be washed out of the subsoil, which had previously prevented the roots from descending. 3d. It is a necessary preparation to the many other means of improvement which may be applied to the land." A free access of air to the roots of plants, it is well known, is requisite to their healthy growth.

In raising trees from the seed care must be taken that it be not planted too deep—a free admission of the oxygen of the atmosphere being essential to germination. From a quarter of an inch to three inches should be sufficient to secure the requisite amount of moisture. Acorns, chestnuts, beechnuts, buckeye and hickorynuts should be planted as soon as ripe, in the fall, or, if not convenient to do so immediately, they may be preserved from drying by a covering of moist sand. Shallow planting is preferable, with a litter of decayed leaves or straw strewed over the ground to keep in the moisture. They may be planted where they are to remain, or—as unforseen causes sometimes operate to hinder germination—they may be first sprouted in seminary beds, and those seeds employed only in which the vital principle becomes fully developed. The black walnut and white walnut or butternut flourish finely upon our prairies, and the value of their timber renders them very desirable in cultivation. The fruit of the latter is usually ripe about the middle of September—a fortnight earlier than the other species. They may be planted from two to three inches in depth, soon after ripening. As a general rule, the depth for planting seeds should be governed somewhat by their size. The usual time for collecting the seeds of forest trees for planting is in autumn. Some trees, however, such as the red elm, and white and red maples ripen their fruit in May and June. In favorable seasons these may be planted as soon as ripe, or they can be kept in some cool place and planted during the latter part of the fall—the proper time for planting the seeds of nearly all kinds of deciduous, forest and ornamental trees and shrubs. Fresh seeds should be

procured for planting, as some kinds, such as those of the elm and poplar, will not vegetate freely when over a year old. Seeds requiring the action of frost to facilitate germination, are sometimes mixed with soil and kept in pans or boxes during winter. If thus treated they should be exposed to the weather, kept moist, and planted early in the spring. The seeds of coniferous trees, such as pines, cedars, firs and larches, may be gathered during the latter part of autumn and kept in some dry, cool place, till the season for planting. They may be sown in beds of finely prepared prairie soil, mixed with sand if too stiff or clayey. The proper season for planting in the open ground in this climate is during the month of April. The seed should be sown in dry weather and slightly covered—half an inch in depth being sufficient for the largest seeds. The young plants require to be somewhat shaded from the direct rays of the sun in dry, warm weather. Evergreens, and most trees for ornamental planting, may generally be procured to most advantage from experienced nurserymen. There are nurseries in different parts of our State, of established reputation, easily accessible to all.

Trees naturally frequenting low, moist ground, become soonest naturalized to our high prairies, if grown directly from the seed or taken from a nursery. Trees transplanted from the woods should be selected from the most exposed situations.

Deciduous trees may be transplanted to good advantage upon our prairies in autumn, if secured in their places by stakes. The right time for fall planting is after the decay of the leaves. Early spring, however, is the preferable time for transplanting such trees as are not perfectly hardy. The soil should be thoroughly prepared, and the trees planted at the same depth at which they originally stood. When a part of the roots are broken off a corresponding portion of the top should be removed. Too much care cannot be taken to preserve the fibrous roots—to keep them moist—and to arrange them as they stood naturally. Mulching with decayed leaves, straw, &c., should by no means be neglected. Manures should never be relied on to compensate for the lack of proper cultivation. Those formed by the decomposition of organic substances, such as naturally occur among forests, and even barn yard manures may often be beneficially applied to the rich soil of our prairies for the growth of timber and shade trees. This soil is said to be somewhat deficient in phosphates, and phosphate of lime is well known to be a principal ingredient in timber trees. It is said by high authority that, "contrary to old opinions, it is found that the wood of quickly growing trees is more durable and more tough than the trees of the same species which have vegetated more tardily." This, of course, applies only to the healthy growth of trees, where all the functions are fully developed. The highest degree of vigor in the growth of particular species of trees, where climate and situation are not unfavorable, depends upon a due proportion of the constituent elements of soil entering into their composition.

A forest of certain kinds of trees, after having exhausted particular ingredients of the soil, or having altered the proportions essential to their full vigor, is often supplanted by trees of a wholly dissimilar species. Thus a forest of oaks or maples will sometimes give way to a spontaneous growth of pines or beech, and so on.

Trees transplanted from a rich soil and sheltered situation are less likely to thrive well where the soil is poorer and the situation more exposed. The natural habits of trees should be understood and attended to in cultivation.

To facilitate cultivation, large belts and plantations of trees may be planted in rows. It is of the first importance to keep down all weeds, and to have the soil sufficiently loose to allow air to penetrate to the roots. It is advisable to plant somewhat thickly at first and thin out as occasion may require.

Evergreens are the best trees for shelter. The white and laurel oak are also excellent for this purpose, as they retain their dried foliage through the winter.

The oaks are easily propagated from seed, and grow well upon prairie soil. The kinds most valuable for cultivation are the white oak, overcup white oak or bur oak, swamp white oak, iron oak, mountain oak, and black or yellow bark oak. Other species are often desirable as shade or ornamental trees. The English royal oak is similar to the white oak. It is held in the highest esteem in that country, as an ornamental tree and for the value of its timber, to which England has largely been indebted for her prosperity and defence from hostile invasion.

The ash is a highly ornamental tree, and not less distinguished for the excellence of its timber. It is called the "husbandman's tree," and thrives well in a deep, rich, calcareous soil. The ash has been styled the Venus and the oak the Hercules of the forest. The most valuable species, the white and blue ash, are natives of this State. The black ash is much used for making baskets and hoops. It is a very hardy species, preferring a moist situation. They may all be transplanted without difficulty or raised from the seed.

The beech, Virgil's favorite shade tree, is well worthy of cultivation, and the soil of the high prairies is favorable to its growth. There are several varieties highly valued in ornamental planting.

The birches grow well in dry calcareous soils, and should not be overlooked in cultivation.

The white elm is a favorite among shade trees—stately and elegant in appearance—and a fast grower, under favorable circumstances.

The red or slippery elm and Scotch elm, which are somewhat alike in form, differ much in size, the latter being magnificent in its proportions. It is also much prized for the excellence of its timber. They are all adapted to succeed well on the prairies.

The linden or basswood delights in a rich upland soil. The species most desirable for cultivation are the *Tilia Americana* and

T. Europea, which sometimes tower to a great height. The timber is fine grained and much used in cabinet work. They are among our finest ornamental trees. The American deciduous cypress is a rapidly growing tree, remarkable for the durability of its timber. It has few superiors in size, and is highly picturesque in appearance. It frequents low, moist ground, and can be cultivated to best advantage in the southern part of the State.

The cucumber tree and tulip tree, belonging to the queenly race of the magnolias, are of rapid growth, attain an immense size and are hardly excelled in stateliness of appearance. These, as well as the sweet gum and Kentucky coffee tree, flourish best in the southern part of the State.

The American and European larches should be extensively cultivated as timber trees. They are both hardy, easily propagated and thrive well on the prairies. The latter species should be planted in the driest localities. The larches are very graceful as ornamental trees.

The black locust has been more widely cultivated as a timber tree than any other upon our prairies, and has often been found extremely troublesome on account of the innumerable suckers it sends up in every direction. The yellow locust, a variety of the same species, is said to be free from this objection, and, also, much the most valuable for timber. The seed of the locust is prepared for planting by pouring boiling water over it. It may be planted at the same time with corn, in alternate rows. The seeds of the honey locust and Judas tree should be planted early in the spring. The latter grows well upon low ground, and blossoms while quite young. Though not a large tree, it is a gem in appearance, and the wood is of fine texture, handsomely veined.

The red mulberry is a beautiful tree, easily removed and cultivated upon the prairies. Its wood is durable and of fine quality. Its fruit alone would render it worthy of culture.

The flowering dogwood (*cornus Florida*) flourishes finely in the shade of other trees, and enlivens the early landscape by the exuberance of its flowers.

The poplars are rapidly growing trees, easily propagated by cuttings. The *tremuloides* or aspen and *heterophylla* make durable poles for fencing, if cut in June. As ornamental trees, they add a pleasing variety to the foliage. The *abele* or silverleaf presents a splendid appearance, and grows well in any situation, but is very encroaching in its character by way of sending up off-shoots.

The balm of Gilead is frequently planted as a shade tree, but the cotton wood is the most important of the species, being considered by some hardly second to any tree for common cultivation upon our prairies, its hardiness, easy propagation and rapidity of growth counterbalancing the defects in the quality of its timber. This, however, is doubtless an exaggerated estimate of its value.

The common chestnut is rapid in its growth, and its timber is straight, but coarse-grained, strong and very durable for railroad

ties, posts, &c. The trees are difficult to transplant, but easily propagated from the seed. They are hardy and adapted to an elevated soil.

The maples are among our most desirable trees for cultivation upon the prairies. The white or silver maple, the red flowering maple and sugar maple are all natives of this state and easily propagated. The two former species soon attain a good size, with proper culture. The striped maple and ash leaved maple or box elder, are much prized in ornamental gardening.

The willows, of which there are many hardy and beautiful species, are raised, with little trouble, from cuttings, and in low, wet ground are most available of anything for fencing. Their pliant twigs are useful for many purposes besides basket making. Their lithe and graceful branches also afford fine contrasts of coloring in the winter season—from green and golden to red and purple. As screens for shelter, some of the willows are very desirable, speedily attaining a sufficient size. The profuse early blossoms of some species furnish food for bees when little else is to be obtained.

Cuttings of all kinds should be taken off before the leaves appear and planted early in spring, as soon as the ground is in a suitable condition. A low temperature and good supply of moisture are requisite. Late planting in open situations frequently results in failure, even with the most freely rooting plants, such as the poplar and willow. Cuttings planted out in the fall should be carefully watched, as they are apt, in wet ground, to heave out by the action of frost. Short cuttings thrive best, and they should be cut smoothly across, slanting at the top, to allow the rain to run off freely.

The American and European mountain ash are very hardy ornamental trees, flourishing well in almost any soil and the most exposed situations. The latter species attains the largest size, and is most profusely decked with brilliant clusters of scarlet berries.

The American evergreen holly (*ilex opaca*) is too much neglected in cultivation. It is a hardy tree, of medium size, and splendid perrennial foliage. It is sometimes used for hedges.

The common horse chestnut is a noble shade tree, adapted to a deep and rich but light soil. It needs the protection of other trees or buildings upon the prairies, as it does not well sustain exposure to strong winds.

The catalpa is a beautiful and rapidly growing tree, but too tender for the northern part of the State.

The buttonwood is easily propagated, and thrives vigorously in moist situations.

Although the coniferous evergreens have but two representatives among the indigenous trees of Illinois, the soil and climate are found well adapted to the production of many of the most beautiful and valuable species. Among these are the pines—white, Scotch and Austrain; the firs—Norway, black hemlock and white spruce and balsam fir. The red cedar and American arbor vitæ are native evergreens, and, like the others mentioned, grow well upon the

prairies. The white cedar (*cupressus thyoides*) is a very hardy evergreen, easily transplanted, and would probably thrive as well as any of the above upon our prairies, especially in moist situations. It grows rapidly, and the value of its timber is well known. Spring is the best season for transplanting evergreens in this climate. The roots must be kept moist, (if a portion of the soil is left adhering to them, they are less apt to suffer from removal,) and, in warm, dry weather, it will be requisite to shade them till well rooted. They should be well mulched after transplanting. Nothing tends to relieve the dreariness of a winter landscape more than evergreens, and no where do they show to better advantage than upon our prairies.

Plantations and belts of trees for timber, fuel and shelter will usually be laid out with a greater degree of regularity than would be the case were picturesque effect a main object; but too great monotony and stiffness of outline may be avoided, without much sacrifice of convenience in cultivation. The outside trees may consist of species smaller in stature, and placed at irregular distances, to break the appearance of uniformity. On most farms spots of ground occasionally occur which seem intended by nature for groves and clumps of trees or single trees, and which may be thus occupied to better advantage than by anything else.

In grouping trees for picturesque effect, nature is the best teacher. By studying her combinations of forms, species and coloring, we may obtain more just perceptions of fitness and beauty of arrangement than from any arbitrary rules. Conformity to nature will necessarily be somewhat modified by the limited sphere of human operations, but her general principles can never be safely laid aside. Trees so disposed as to exhibit the most pleasing variety of foliage in spring and summer, will also be found to assume the most exquisite combination of tints in autumnal scenery. It is from nature we learn that

> "———A grateful mixture of well matched
> And sorted hues, each giving each relief,
> And by contrasted beauty shining more,
> Is needful."

Avenues of trees by the road sides are a great desideratum upon the prairies, and every encouragement and facility should be given for planting them. The same principles of diversity in forms and distances must here be applied to produce a pleasing effect. A due admixture of the hardiest evergreens should not be overlooked. Clumps of small trees may occasionally intervene between the larger kinds, and the intervals of space should be sufficient to prevent the roads becoming too much shaded. Along railroads shade trees might be more thickly planted without inconvenience. All the timber requisite for repairs could easily be raised along the track, and no small portion of the fuel should also be thus furnished.

Unsightly objects about one's premises or within range of view, should be concealed by trees and shrubbery. The indigenous trees and shrubs of this State are alone sufficient to furnish our dwellings upon the prairies with surroundings of more than Arcadian beauty. Among the smaller trees and shrubs are the bladdernut, hop trees, burning bush, (*enonymus atropurpureus*,) the strawberry tree, (*E. Americanus*,) the high cranberry, snowberry, buckthorns, hawthorns, &c. The climbing shrubs include the American deciduous ivy, (*ampelopsis*,) the yellow honeysuckle, the staff tree, (*celastrus scandens*,) with its coral-like berries, remaining on through the winter, the prairie rose, also retaining its scarlet clusters till spring, and the magnificent *bignonia radicans*, found in the southern part of the State. Trees are the natural supports of these climbers, on which they exhibit, to best advantage, their graceful foliage and festoons of flowers and fruit. Exotic plants, from the nurseries, are too often exclusively sought for purposes of embellishment. These cannot be too highly prized, nor can the enterprising proprietors of such establishments receive too much encouragement in their efforts to extend the demand for the choicest varieties of trees and shrubs; but we should not overlook, in cultivation, the many fine specimens the nearest woods will afford. Commonness detracts nothing from beauty; and there is

"No tree of all the grove but has its charms."

The proprietors of a piece of ground, set apart, in one of our eastern cities, for the cultivation of trees and shrubs, were at considerable pains and expense to procure from a distance a specimen of the *Sambucus Canadensis*, which had been highly recommended. They were surprised to find it nothing but the common elder—a fine shrub, indeed, but abounding, in its wild state, near at hand. The noble efforts made in some parts of Europe to perpetuate the most important existing trees and shrubs, are worthy of emulation in our own country. With the disappearance of our forests many species are liable to extinction, unless exertions are made for their preservation.

Among the important objects claiming attention is the establishment of arboreta, in different parts of our state and country, for the growth of all the trees and shrubs adapted to the climate of their several localities. The public gardens and parks of Europe are not less attractive than its magnificent piles of architecture, and other costly works of art, and contribute greatly to the health and happiness of the people of all classes. Cimon was one of the noblest benefactors of Athens when he bestowed on that city the groves of Academus, which he had planted; and Ceasar knew how to endear himself to the citizens of Rome when he bequeathed to them

"———————— All his walks,
His private arbors and new planted orchards,
And to their heirs forever; common pleasures,
To walk abroad and recreate themselves."

A large, symmetrical tree is one of the most ornate and imposing of visible objects. The colossal shafts of the pines and cedars of California fill the beholder with most profound feelings of awe and admiration. These, and many other venerable trees still existing, are fitting monuments of ages long buried. Trees often attain a historic celebrity, long remaining as representatives of important incidents in the drama of human existence. Among such have been the royal oak which sheltered Charles, the Second, the charter oak of Connecticut, the Wallace oak, Queen Catherine's oak, Shakspeare's mulberry tree, the elm of Boston Common, Dr. Johnson's elm and Napoleon's willow.

To those upon our prairies whose labors have almost exclusive reference to pecuniary interest, we would say: plant forest trees, if you would lay broad and permanent foundations for future wealth. But we trust that the spirit is becoming more prevalent which animated the venerable Laertes, who, at one hundred years of age, found satisfaction in planting trees for posterity. The trees, placed as sentinels around the sacred precincts of home, will be regarded as friends by our descendents, and become associated with many of their purest enjoyments. Trees have ever been appropriately regarded as symbols of knowledge, patriotism, victory, peace, fidelity, friendship, life, and immortality. Let us cultivate them for our own pleasure and profit, and as monuments of our regard for future generations.

ON THE CULTIVATION OF FRUIT TREES ON THE PRAIRIES.

By C. R. Overman, Bloomington, Illinois.

Of all the manifold luxuries by bountiful nature lavished on our highly favored land, that of *fruit* stands pre-eminent. Of all the forms in which she rewards the toil and care of the husbandman, none are so acceptable, so delicious to the palate, so healthful, and at the same time so tempting.

We read that in Eden our first parents were surrounded by every delicacy the vegetable kingdom afforded, in all its profusion; and the apple was selected by Divine wisdom as the one most appropriate on which to place the interdiction; and the same was also chosen by the tempter, as the most seductive offering to allure the sinless to disobedience. Coeval with our race, is the fame of the apple; and whether exalted in the sublime metaphor of sacred writ as "apples of gold set in pictures of silver," or shadowed forth in the dark myths of romance as the "golden apples of Hesperides," its laudation has met with a ready response, in all ages and conditions of the human race.

In the wide range and vast variety of the fruits of the earth, the *apple*, "the world renowned fruit of temperate climes," justly bears sway. Though the pear, and the peach, the nectarine, and the mellow grape, may be more melting and aromatic, more refreshing to the system and exquisite to the palate in their particular seasons, yet their transient periods forbid a constant supply. On the apple, then, we must always rely, as the great staple of our luxuries. Available at all seasons, and in nearly all parts of the habitable globe, dispensing its grateful aroma in summer's heat and in winter's cold, adapting itself in its vast variety of flavor and texture to the tastes of all, the apple throughout all time must continue to form the most important item of our indigenous fruits. And no region of earth produces it in greater perfection than our fertile prairies. With the rich soil to give it size, and the bright sunshine, the pure stirring air, and the requisite degree of heat, to heighten its color, refine its juices, and perfect its exquisite spices, it is not surprising that our Illinois apples have elicited the admiration of all who have beheld them, and borne away the palm wherever they

have been exhibited. How important then that every owner of the fertile acres of Illinois should understand his interest, and acquire a thorough knowledge of the cultivation and management of fruit trees, and also an acquaintance with the best and most desirable varieties, and the most profitable proportion in which to cultivate them? That there is a great lack of general knowledge on this subject is apparent, from the meagre supply of our markets, of good varieties of even the apple. But since the era of wild speculation has passed, and that of *common sense* begins to dawn, it is to be hoped the proprietors of the soil will no longer neglect the comforts of life, and that not many years will elapse, ere an ample supply of the best fruit will be in the reach of all, and be regarded as indispensable as the stock of corn and pork. It will still continue to be the business of the nurseryman to select the fruits and cultivate the fruit trees of the country; yet this little essay is *offered*, (as the result of twenty years experience,) in the hope of contributing a mite to the general stock of information. Though the experienced cultivator may find in it nothing new, if the novice may be in some degree benefited by it, the writer's hopes will be realized, and his pains rewarded.

The first thing to be considered in the establishing of a nursery is the aspect of the location, the quality of the soil, &c. The ground for a nursery should be high, dry and rich, and if gently rolling or declining to the north or west it is better. It should be underdrained, and trench plowed or subsoiled as deep as practicable. If this can be done in the fall or winter previous to planting, the frost will ameliorate and pulverize it, and greatly facilitate the proper handling of it.

The *seeds* will next claim attention. Those of the apple are usually washed out of the pomace at the cider mill, before it ferments. The seed should be soaked twelve hours to free it from the acid, then spread out and dried thoroughly in the shade. Seeds of the pear and quince are usually picked out of the cores by hand. These three kinds of seeds are prepared for vegetating by the same process.

About the middle of winter the seeds are to be soaked forty-eight hours in warm water, then placed in a box and exposed to freezing and thawing till spring. If the seed is more than five or six inches deep, there will be danger of their heating. The seed must be kept from drying, and the frost should be kept in as late as possible, otherwise it is apt to sprout before the ground is in condition to plant, and if not planted as soon as it begins to sprout it will soon spoil.

Seeds of the stoned fruits should be gathered as freed from the pulp, and buried shallow, to prevent drying, and allow them to freeze and thaw in winter.

PLANTING SEEDS, AND CULTIVATING THE PLANTS.

The ground for the seed bed must be dry and rich, and for easy cultivation, should be new. It must be deeply plowed and thor-

oughly pulverized. If the seed are to be put in with a drill, first run a light roller over the ground; if planted by hand, this is not necessary. The seed may be sown in double drills, twelve inches apart, with three feet space between to admit the cultivator. Sow the seed rather thin and cover them from one to two inches deep with fine moist mold. Keep the ground free from weeds, and if the plants grow well a part of them may be large enough to bud by mid summer, or in time to be brought out, and make some growth the same season.

We bud only such varieties of the apple as are too tender, or do not otherwise succeed well, root-grafted. On small stocks the buds should be set as high up as the size will permit. After the frost has completely checked the growth in the fall, the plants are to be taken up, by first running the *plant cutter* underneath and cutting them off at about eight inches deep. This is a great labor saving implement. It is made by stocking a plow share similar to a common plow, except that the right handle is fastened by a rod to the left above ground.

The seedling stocks are to be taken up, tied in bundles and stored in the cellar, to be ready for grafting. They should have a slight covering of saw dust to prevent drying. Those that are budded may have the tap root shortened to five or six inches, then they should be buried in dry ground, below the reach of frost, till spring. *Scions* for root grafting should be cut late in the fall, or early in the winter. Great care should be taken in procuring scions. First, to get them from undoubted sources; second, to procure only the best varieties of fruits, and such as are hardy and succeed well on the root; third, to select the stock so as to make the proportion right; say about one-sixth early, one-third fall, and one-half winter fruit; fourth, to label carefully and correctly. The scions should be well ripened shoots, of the current year's growth, and with full and well developed buds.

Root grafting is a very simple operation, and various methods are practised, amounting in the result to nearly the same thing. Its advantages are—first, greater rapidity, and cheapness in propagating stock for the country. Second, it is to be done in winter, which would otherwise be an idle season with the nurseryman. We usually commence grafting about the first of January. The roots are to be trimmed and washed, and the scions rubbed with a moist rag. Use a keen, sharp knife, with a thin blade. The most expeditious and safe mode is that of whip, or tongue grafting. We usually practice it, and operate as follows:—We first mitre (or slope) tongue and cut a hundred scions, from four to five inches in length, being careful to have one or more good sound buds near the top. In making the slope or cut from the inside of the curve (if crooked) of both scion and root to straighten it somewhat. The face of the mitre is to be cut true, and three-fourths to an inch long, according to size. The tongue is made by placing the knife square across its face about one-third of its length from the end, cutting

with the grain of the wood about a half an inch. We next cut and tongue a hundred roots in the same manner from two and a half to three inches in length; we then proceed to fit them together, nicely matching them in regard to size. The inner bark of each must come in *contact* with the other, on one side at least, after which they are to be tied with twine, or strips of corn husk, or wrapped with strips of waxed paper, when they are ready to be packed in boxes, for which either moist sawdust, or sand, or fine mold is used. The grafts may be packed upright, with the tops in the air, or horizontally and covered up entirely. In either case, they must be kept moist in the cellar till time for planting. In this condition they will knit together and strike out numerous small roots and burst their buds, by the middle or last of April, when they are ready to be set out; but it would be well to expose them for a few days to the light before planting.

TRANSPLANTING IN NURSERY.

The ground should be fresh plowed, harrowed and rolled, or brushed, as the planting proceeds. Lay off the ground in square blocks, of convenient size, with avenues, from eight to twelve feet on each side. It is better to plant the rows north and south. The sprouts on the roots of the grafts must be rubbed off, but with as little exposure to the air as possible. Stretch a line tight and straight, and commence planting with the earliest fruits, and proceed in the regular order of their time of ripening. The fruits of each season should occupy separate blocks. Make the rows four feet apart, and set the plants eight inches apart in the row. The setting may be done with a transplanting trowel, a dibble, or an implement made with three iron or steel teeth, or spears, seven or eight inches long, flat-oval in form, an inch wide, sharpened at the ends, and well polished, with a handle four feet long.

With the ground in proper condition, an expert hand will make the holes, with this instrument, as fast as two boys will stick in the plants; whilst another following after, will fasten them by running another implement of the same size down an inch from them and pressing the dirt to them. The planting is finished by treading each side of the row. Permanent stakes are to be set at the end of each row, and at the beginning and end of each kind, where there are more than one kind in a row. The upper end of the stakes should be painted white, and the name of the fruit lettered with oil paint. The budded stocks are to be set out, staked and cultivated in the same manner as that of the grafts.

CULTIVATION, TRAINING, &C.

Soon as the weeds appear, a horse hoe, cultivator, or light plow, should be run through the nursery, throwing a light skim of dirt to the rows, just sufficient to cover the entire surface and smother the young weeds. The next working, throw the dirt from the row, and use a small hoe to clean out between the plants. Thus the cultivation may be continued till mid summer, turning the dirt

to the row at the last working. A little training is necessary the first season. Some kinds will grow obliquely from the start; these may be straightened by placing a clod underneath, or by tying up to a small stake or weed stuck down by the side.

The disastrous effect of the past two winters has taught us a severe lesson, on the necessity of checking the growth of trees in time to mature or harden their wood for winter, and we would here recommend a plan we have in past years adopted with complete success. It is simply to sow oats, three bushels to the acre, about the first of September. By this means the growth of the trees is suddenly stopped, and the wood is ripened and hardened. It is necessary, however, to throw a heavy furrow up to the row on each side, just before winter sets in—thus covering up the oats to prevent the mice from harboring in it. As soon as vegetation commences the following spring, the ridge should be removed from the rows, and the same course of cultivation pursued as the first year, till mid summer.

Head down all stocks intended for budding, just above the strongest bud, to give a strong new shoot in which to set the bud. A little more training will be necessary the second year. All the ground suckers and the "sharp forks" should be taken off, and all such main stems as grow top heavy and bend over, should be lopped off; but otherwise trim very sparingly, as more injury results from excessive and injudicious trimming than from any other cause.

The small growth of the body of the tree must be left on till the tree has acquired abundant roots, and a sturdy, tapering trunk—the true shape of the tree, which it will be likely to retain. This side growth will somewhat retard the growth of the top, but when it is proper to remove it, the top will develop most rapidly. Keep a vigilant watch for destructive insects, and look sharp for any "wildings" that may have come up from the root, or any grafted tree out of place, and bud them or destroy them at once.

The second autumn the oat sowing may be repeated, with the same precaution against mice. The rabbits will also need attention. Where numerous they sometimes ruin a nursery in a short time. They should be fenced out, or hunted and destroyed out of the neighborhood. If scions are cut from the young trees, leave the spines about two inches long.

The cultivation should be commenced the following spring as early as practicable. The true theory for raising hardy trees on the prairies, consists in forcing the early growth to the utmost extent, and holding back, retarding, and checking up the late growth by every possible means. In other words to counteract the tendency of our *rich, fat* prairie soils to produce a late, gross, and immature growth, which our severe winters are so apt to destroy.

The third summer is the time to form the top, or head of the tree. By the exercise of a little care and judgment in due season, the tree may be made to assume any desired form, and this should always be given it before leaving the nursery. This may be easily

done, and without detriment to the growth of the tree, by simply pinching off the terminal buds of the gross, irregular leaders, and straggling branches, whilst they are young and tender. Indeed, if all the superfluous branches were removed *when they should be*, no larger tool than a *pen knife* would be needed to do all the pruning a tree will ever need.

The tendency of some varieties is to grow with single stems, without branches The top buds of such may be nipped when about four feet high, and made to force out the lower buds to supply the needed branches. We would here suggest that the proper form of a nursery tree is a straight centre stem, with three or more strong, well balanced branches, diverging at three to four feet from the ground, and ascending—though in removing the tree from the nursery, all the main shoots should be shortened in.

Budding, though a simple art and easily acquired, is a nice and delicate operation, and great care is indispensable in the practice of it. So soon as the new buds are well formed and matured, and the new shoots of the stock are large enough, the budding should be commenced, in ordinary seasons about the middle of June. In early budding we use only the best grown shoots, and but a few of the middle buds on the stick, rejecting all that have small, weak, or imperfect eyes. In budding the apple, the pear, and the peach, we take out the wood, but usually leave it in in the cherry and plum. If in taking out the wood, the eye or germ of the bud pulls out with it, the bud is to be discarded. Insert the bud on the upper side of the bend, or crook, near the base of the new shoot—wrap well, below and above the bud, with soft bass bark, or woolen yarn, and loop, or hitch it securely. In from ten to fourteen days, if the bud takes, the stock should be headed down, an inch above the bud, to hurry it out in time to make a good growth, and mature well, to withstand the winter. Buds should always be set in while the stock is small, (not larger than a goose quill,) and from one to three feet from the ground. The practice of budding, and heading down stock an inch or more in diameter, is much to be deprecated, as the wound is so large that it cannot heal over before decay at the heart ensues, and hence, the life of the tree will be shortened. When the bud starts crooked, it must be tied up to ths spur. Numerous buds will put out around and below the bed of the stock, which, if permitted to remain, will rob the bud. Those nearest the bud must be rubbed off, but those an inch or more below, should only be shortened, as their leaves serve an important purpose in keeping up the size of the "neck," below the bud.

THE CULTIVATION OF THE PEAR,

On its own root, is similar, in all respects, to that of the apple; except that it does not succeed well root-grafted. There is, however, a most serious drawback on the propagation of standard pears in our country. That terrible and mysterious malady, the *leaf*

blight, attacks the young plants in the seed bed, as well as the older stocks in the nursery. It usually makes its appearance before mid summer in shape of small iron rust spots on the leaf. Spreading rapidly it soon overruns the nursery and the leaves become dry and crisp, and shed off. Though the trees often make a feeble effort to grow after a severe attack, they never fully recover, but die by slow degrees.

As neither the cause, nor any certain remedy has yet been discovered for either the leaf blight, or fire blight, and as these diseases are generally prevalent throughout our prairie country, we have little to hope from the pear on its own bottom. The method of dwarfing the pear on the quince stock, is extensively practised in nurseries at the east and elsewhere. This mode of propagating hastens the bearing maturity of the pear tree, and it is thought to exempt it in some degree from the blight.

DWARF PEARS ON THE PRAIRIES

Are not, however, of sufficiently long standing to warrant their recommendation for general, or extensive culture, and it is, therefore, deemed unnecessary here to enter into the details of their cultivation, further than briefly to remark, that they are budded on the Anger's quince stock at the ground, and by a system of heading down they are made to branch very low. They sometimes bear a little fine fruit, at two and three years old from the bud.

THE CHERRY

Is usually budded upon the mazzard, or mahaleb stock. The stocks are to be set in the nursery at one year old, if well grown, and budded in August of the same year, and brought out the ensuing spring. They grow rapidly, and most kinds are easily cultivated.

THE PEACH

Is the most easily raised of all fruit trees. The seed may be planted in the nursery, and the trees will frequently be large enough to bud in June of the same year, and it requires very little training. It has been remarked that one moderate crop of this delicious fruit, will amply repay all the cost of the trees.

THE NECTARINE

Is only a smooth peach, and must be treated in all respects like the latter.

THE PLUM AND THE APRICOT

May be budded on stocks of the horse plum, or grafted on roots of the common wild plum, or it may be stock grafted.

Long experience and close observation have convinced us that the proper age at which to transfer trees from the nursery to the orchard and garden is *three years*, provided they are well grown.

They can be taken up with sufficient root, packed and removed a distance without injury, and when properly set out, they grow much more certainly and thriftily than large trees that have been mangled in the removing.

The best season for taking up trees is the fall, and the best plan is to bury them, *root and branch*, below frost, till spring, when if they are taken up, and the tops aired a few days, and properly set out, and managed well, are *sure to grow*.

Something might be added on the transplanting, management and orchard culture of trees, but as this paper is already too long, that subject must be reserved for a future occasion.

ON THE CULTIVATION OF ORCHARDS.

By C. R. Overman.

Among all the objects that constitute the charm of rural life, the orchard stands pre-eminent. It is the most cherished spot on the farm—the treasure house in which is garnered nature's choicest offering to her dependent children. To the young and guileless it is a hallowed retreat, where, perhaps, for the first time, the spontaneous gush of gratitude to the Bountiful Giver may have thrilled the soul. The generous impulses there formed in the heart of a child will go with him through life. Should his lot in after life be cast among strangers, in a far off land, how often will memory revert to the cherished scenes of his "life's morning march," and fancy repaint vivid pictures of

> "The orchard, the meadow, the deep-tangled wild wood,
> And every loved spot which his infancy knew."

But around the orchard will his memory most love to linger, for it was there he reveled in all the fullness of joy. There the quintessence of beauty gladdened his eye, and the perfection of aroma delighted his palate. What wonder, then, he paid such sincere yet unconscious devotion at Pomona's shrine.

Parents, plant orchards, if only to instill into the hearts of your offspring a deeper love of home, to centralize their affections, to counteract the nomadic spirit of the age. Convince them by argument, at once potential and pleasing, that "there is no place like home." In a word, do all you can to make your home *attractive*, and be assured that they will be less inclined to wander from the paternal roof in quest of forbidden joys.

Without extending the preface, we now proceed to offer a few practical thoughts on the location, planting and culture of orchards, presuming that additional information on such subjects may be acceptable to the public mind.

In treating of the orchard in general, we would be understood as referring to the *apple* as the essential element of the orchard, proper. Though other fruits are sometimes reckoned "in," the apple is acknowledged *monarch*, and of him we treat.

In locating an orchard, the first object, and a most important one, is to select an eligible situation. An elevated or rolling situation is greatly to be preferred, and if the aspect is northern, all the better; but as such a site is not always to be obtained, yet a level or less propitious one may be rendered nearly equivalent by thorough underdraining and subsoiling. Indeed, this system of preparing orchard ground, whether high or low, cannot be too strongly recommended, for, though its need upon high ground is not so absolute as upon low, yet all situations, high and low, will be greatly benefited by it. It is worthy of remark that the best *natural* situations for orchards to be found in our country are in the "barrens" and the timber, on the clayey ridges and gravelly slopes. On such localities we have generally found the hardiest and most productive orchard trees. The proprietor should select the most eligible spot on his premises for the orchard, and what it lacks by nature he must endeavor to make up by art. Whether the ground be underdrained or not, the deep plowing or subsoiling should in no case be dispensed with. Perhaps the most effectual way to do this is as follows: Use two strong teams; with the first a No. 6, old ground plow, set to run as deep as it can be drawn; with the second team use a No. 5, corn plow, set also to run deep; follow with it in the furrow made by the first team at a brisk walk, and you will throw up the subsoil and deposit it upon the surface. In this way we have sometimes trench plowed near twenty inches deep; but it requires stout teams, and bright, scouring plows. The fall previous to planting is the time to do this, but if it has been neglected, it is better to do it in the spring than omit it altogether, for no opportunity for thoroughly subsoiling the orchard ground is ever afterwards expected to occur. Another method of subsoiling is to break up the subsoil as deeply as possible, and let it lie without turning it up. For this purpose the Michigan double or subsoil plow is used. The ground being thus thoroughly prepared let it lie so till time to set the trees. Since the severe winters we deem it unsafe to recommend planting in the fall. Though the fall season is the better time to procure your trees, they should be buried till spring; but in case they have been procured in spring, (and it should be early,) the first thing to be done after unpacking is to examine the roots, and if in good order, cut off smoothly with a sharp knife, from the under side all the roots that have been bruised or mangled, in taking up, also, shorten, in the same manner, all the long and straggling roots to eight or ten inches. Next, have a hole in the ground a foot deep, filled with mortar or grout, made of equal parts cowdung and clay, into which plunge the roots, so as to give each one a coating of the mortar. Dig a trench; in which place the trees, in a sloping position, with the tops to the north; cover the roots securely; and let them so remain till the buds begin to burst into leaf. In this position the sap will flow more readily and the leaves put forth earlier than if they had been planted at once in the upright position; and there is a material advan-

tage in having the trees started before setting, provided they are carefully handled in the removal.

Trees not exceeding three years old are considered safer to remove than those that are older. They should be thrifty, well grown, stocky, with low heads and sufficient roots. The proper time for planting will be indicated by the buds bursting and showing the points of the leaf half an inch long or so. The ground may then be harrowed smooth. In the next place it must be squared exactly, if you would have the rows range in every direction. Procure as many stakes as you have trees to set—straight corn stalks or hazel rods three feet long. If your ground is square, by carefully measuring, you can set the stakes so they will range perfectly. The proper distance apart is about thirty feet, or about fifty trees on an acre. The planting is very much facilitated by the use of a very simple contrivance, called an index board, or "replace." Take a strip of board, say six feet long, five inches wide and one inch thick, saw a notch in each end and one about the middle, on one edge, and it is made. By its use one can plant alone, without an assistant to hold up the tree or sight. Procure two or three dozen pegs, six or eight inches long, lay the board down by the side of the stake so it will fit into the middle notch, then stick a peg down in each notch at the ends, raise the board and proceed as before, till you have pegged a row or two of stakes. With the spade mark out the size of the hole around the stake as its centre. The hole may be three feet wide and some eighteen inches deep. In digging the hole the subsoil or under clay should be thrown aside. Fill the hole, partially, with rich top soil and tread it firmly, to keep the tree from afterwards settling down. Put down the board again and fit it on the pegs, set the tree in the middle notch, let the top incline a little to the southwest. Spread out the roots in their natural position, let them be but an inch or two deeper than they stood in the nursery, with the fingers compress the rich, moist soil around and amongst all the roots, fill up with rich mold to the top and tread it firm around the tree. Finish the planting by using the under soil or clay to make a mound around the tree, three or four inches high, and grade it down to the edge of the border. By following out these simple rules your planting will be done on "scientific principles." If the weather should be dry after planting water thoroughly once, and cover the border around the tree with old straw or litter two or three inches deep. This will keep in the moisture and keep down the weeds at the same time.

So soon as the sap begins to flow freely shorten all the leading branches and shoots, by cutting back at least half the previous season's growth. With careful cultivation there is not, perhaps, a more favorable crop amongst small trees the first year than corn, as it affords them about the requisite shelter from the fierce sun and strong winds. The corn should not be planted nearer to the trees than four feet, and it is better to cut it up in the fall for feed in

order to get the stalks off the ground. The insects that require watching, even the first year, are the leaf roller, the aphis, the slug worm, the various tribes of caterpillars, and occasionally the tobacco worm. As most persons are familiar with all these and their various capacities for mischief, it is deemed unnecesaary to describe them here, but we would exhort the tree planter to keep a sharp look out for them and promptly destroy or remove them from the tree. The trees, if not mulched, must have clean culture, but will not need a touch of the knife the first season. Before winter sets in a small, sharp mound of leached ashes or soil should be raised around each tree, say six or eight inches high. This will brace the tree somewhat and prevent the mice from harboring at the root. A few strong weeds or split corn stalks, two and a half feet long, stuck into the ground around the tree and tied at the top will keep both mice and rabbits from gnawing the bark. A coating of long manure, three or four inches deep, will protect the roots from the severity of the winter and enrich the ground. This should be removed in the spring, also the protection from the trunk and the mound from the root. So soon as the buds begin to burst wash the trunk and main branches with strong lye, applied with a mop or broom brush. The trees should also be washed with soap suds every two weeks till midsummer. This practice continued through subsequent years will more effectually ward off the apple borer than any other method we have yet tried. A very good plan is to give the trees an annual coating of soft soap, diluted with water. It should be put on before the leaves appear in the spring. For the second, third and fourth years it is better to plant the ground with potatoes, vines, or some other low running crop. Cultivate thoroughly till midsummer, but do not stir the ground later.

The great secret of success in raising HARDY TREES is to push them forward as early and as fast as possible for the first half season and to check them up in the latter part, to permit the trees to harden up their wood and buds and prepare for winter. This is more effectually done by sowing oats thickly around the tree about the middle of August, but if not carefully removed before winter it will harbor the mice. The second summer a little attention should be paid to the training and forming of the head, but the knife should be used with discretion. Often more injury results from injudicious pruning than from any other *barbarity*, except the sowing of small grain or timothy seed among the trees. The adoption of the latter course will insure success, if you wish to *murder your orchard by inches*, especially if applied before the trees are ten years old. Cut while the branches are small and the vigor of the tree will not be sensibly checked. Take out the limbs that are likely to cross and thin out the clusters, train the top into a low, spreading, well balanced head, with an open centre. A very little trimming each year will be required to form the head into the required shape, without the necessity of cutting out a

branch of over half an inch in diameter; but if a larger one should be taken off the wound should be covered with a coat of grafting wax or white lead paint. The "ground suckers" should be taken close, as often as they appear. The side shoots may be shortened, but should not be cut off close till the tree has acquired a study, tapering trunk. In close trimming make a smooth cut, outside of the ring or swell, at the base of the shoot or branch and parallel with it. In a prairie orchard especially, the lower limbs should not exceed three feet from the ground, on an average, some should be lower and some may be higher, according to the character of their growth. With low, spreading heads the trees are much less affected by the winds and by the severity of the winter, besides, they bear better crops and finer fruit, and the fruit is much more accessible. No need of running the plow under the tree or close to it. If low trained its shade as a fertilizer, with the requisite mulching, is better than frequent stirring of the soil. Very thrifty young orchards are generally tardy in commencing to bear. In such cases we have successfully brought the trees into a bearing condition by seeding the orchard down to clover, but care is necesary to keep the ground free from the sods for four or five feet around the trees, either by mulching or stirring the surface. As the trees grow older the tendency to rough, scaly bark and moss increases. These should both be scraped off whenever they appear. Even old orchards require a deep stirring up at least once in two or three years. It is a good plan to sow buckwheat in the orchard, and in the fall turn in the hogs to devour the grain and fallen fruit. Enough grain will be left on the ground to seed it another year, and the straw will keep the ground loose and moist. If the ground becomes exhausted it must be well manured all over. Feed your trees, and they will feed you. The most dreaded enemy of the apple orchard is the borer. In his case, as in most others, an ounce of prevention is worth more than a pound of cure. Look sharp for him in May and June, wash frequently with soap suds, &c., put leached ashes and old lime around the tree, and you need not be much troubled with him; but if he once gets in he must be cut out or he will cut himself out, and perhaps carry the life of the tree with him.

ON PRACTICAL GARDENING IN ILLINOIS.

By S. Francis, of Springfield, Illinois.

The subject embraced in the title to this essay is an important one. The Transactions of the State Agricultural Society have hitherto been silent upon it. A very large proportion of the most desirable and healthful food used in families can be gathered from the garden. The first illustrations of agriculture on our earth were presented in the garden—planted by Deity.

The products of the garden are suited to the wants of Man. A little cherished spot is more productive of food than broad acres. No farmer who understands the value of a good garden, knows how to cultivate it and has a taste for the work, will be content without he has one. To furnish such knowledge, and to impress upon our farming community the necessity of improving and cultivating such taste, are the objects of this essay.

We proceed to present some suggestions in regard to the selection of grounds for the farmer's kitchen garden, the different vegetables required, and their mode of cultivation.

The best situation for a garden is where it can be protected from severe winds, and especially those from the north and west. A thick, high, osage orange hedge will best protect gardens from the winds that sweep over our prairies, coming from all points of the compass. The best soil is a deep, rich, sandy loam, dry and friable enough to admit of culture soon after a rain, and adhesive enough to stand a drought.

If the garden ground is plowed, (which it is likely to be on a farm,) this should be done as deeply as possible, where the soil will admit of it. One foot in depth is not too much. In our Illinois gardens well rotted manure, worked into the soil, will make it quick, warm and improve the crops.

In laying out and planting the garden, reference should be had to the mode in which it is to be cultivated. To save time and labor, and where ground is not a great object, many of the articles grown in a farm garden can be cultivated mainly with the plow and cultivator. In such case they must be planted in long rows.

Beets, carrots, parsnips, peas, beans, and many other plants and vegetables, do well under this mode of culture.

There are certain implements which will be found very necessary in the garden. Some of them can hardly be dispensed with. The wheelbarrow, spade, rake, hoe, reel and line, seed drill and marking rake are the principal. A hot bed for those who desire to start plants early, can be made at little expense.

For a hot bed, choose a warm, dry spot, the south side of a tight fence, and commence making the bed about a fortnight before the opening of spring. Take manure from the horse stable, mixed with straw litter, which has been thrown into a heap and begun to heat; arrange it in the form of the frame or box, six inches wider every way and eighteen inches deep; level it off, place the frame upon it and press it down close all around. Fill in from four to six inches of rich loam, which was placed under cover in the fall and kept dry for that purpose; put on the lights, and in three or four days it will be warm enough to sow. A frame, five feet wide and six feet long, covered with two sashes, will be sufficient for a common garden. The south side should be one foot and the north or back side should be one foot and a half high. It will be necessary to raise the top of the sashes occasionally, in good weather, to give air and to harden the plants, and, in a very hot sun, to shade or take off the lights altogether, to prevent burning up.

It is important to have sound seed and of good varieties. With ordinary management vegetables rapidly degenerate in our State. The beet, in a few years, becomes coarse, stringy and worthless for the table. Care in the selection of vegetables for seed will be found very often to improve their quality. Seed growers are very careful in their selections of roots for seed. When seeds are found not to produce a good vegetable of their kind, it is certain that the seed came from a defective plant. A distinguished seed grower says of the mode he follows to produce good seed: "In the blood beet, we always look for deep color, smooth, handsome form, small top and sweet, tender flesh. In the orange carrot, small top, smooth root and deep orange color. In the cabbage, short stump, large, compact head, with but few loose leaves. In the cucumber, straight, handsome form and dark green color. In the lettuce, large, close head, pleasant flavor, with the quality of standing the heat without running up to seed. In sweet corn, long ears, shriveled kernels, filled over the end of the cob. In the cantaloup melon, rough skin, thick, firm flesh and high flavor. In the water melon, thin rind and bright red core. In the onion, thick, round shape, deep color, mild flavor and good keeping quality. In the parsnip, small top, long, smooth root, sweet flavor. In the pea, low growth, full pods, large, tender peas and with rich flavor. In the scarlet radish, deep color, small top, clear root and quick, free growth. In the squash, medium size, dry, fine grained, deep colored flesh. In the turnip, handsome form, small top and tap root, sweet, crisp flesh."

This extract is given so that when professional gardeners and seedsmen speak of pure seeds and improved vegetables, they can be understood. The process here presented of thus improving them is every year progressing, in the United States and elsewhere, and that farmer who continues the cultivation of vegetables, from year to year, without care in improving and keeping up the value of his seed, can have but a faint perception of the excellence of the improved vegetables of the present day. We say, then, that a small amount of money can be profitably expended in purchasing improved seeds of vegetables from responsible sources.

In these few pages it is not designed to notice those vegetables not in general use, or the cultivation of which would not compensate for the labor expended. We shall only describe the mode of cultivating those generally esteemed of the first necessity, and the use of which in families would be healthful and economical.

The State of Illinois, it must be borne in mind, stretches north and south through six degrees of latitude. The spring season, or the growth of vegetation, is from four to six weeks earlier in the Southern than in the Northern part of the State. Hence the time of performing the spring gardening work is very different in the different localities, and must be regulated in them by the state of the season.

Asparagus.—The opinion is offered that this delicate, early and healthful spring vegetable cannot be found on one of fifty farms in this State. It requires three years to perfect the growth of a good bed of asparagus. In this rapidly moving age, this is too long a period to wait for the reward of labor in planting asparagus; or, perhaps, when the work is to be done, it "is put off till a more convenient season," and that seldom arrives.

There are but two varieties of asparagus. The growth and size of the plants depends on the mode of their cultivation. Either will grow large in good soil, with proper management. Soak the seed twenty-four hours in warm water. Plant them as you do beets and carrots. Thin them out in the rows. At one year old transplant them into permanent beds. The ground should be trenched or dug over two feet deep, burying plenty of manure and mixing it thoroughly with the soil. Lay out beds four and a half feet wide, and draw three drills, six inches deep and fourteen inches apart, lengthwise of the bed; place the roots in them, one foot apart, in their natural position, and cover four inches deep. A rich, sandy loam is most suitable. Every autumn, after clearing off the stalks, spread on a covering of manure, to be forked in, with a good dressing of fine salt, very early in the spring. The operator should be very careful not to injure the crowns of the roots. Some asparagus may be cut the next year, but it would be well to defer the cutting till the third year.

Beans.—Dwarf, bunch, snap or string beans (for there is a class having all these names) should not be planted in spring until dan-

ger from frost has passed, and the ground has become warm and light. They can be planted in drills and thinned out to four inches apart—the drills being two and a half feet distant from each other. There are many varieties. The early China red-eye is very early and prolific. Early yellow six-weeks and early Valentine (long red mottled,) are excellent for snaps. The refugee bean (long, dark clouded,) has the same characteristics. The white succotash (a large, round bean,) is most excellent, green or dry, and the white royal dwarf (a large, long, white bean,) is excellent for garden and field culture.

There are many varieties of pole beans. The early Dutch case-knife is excellent, both as a snap and shell bean. The horticultural cranberry (round and red-speckled) is far the best of all the cranberry varieties. The pod has a very marrowy richness, excelling all others of its class. The small Lima or butter is a very fine bean, but the large Lima is better. Pole beans should be planted in warm and rich soil, in hills three feet apart, five or six beans must be planted in a hill, and a strong pole should be placed in the centre of the hills, eight feet high. When the Lima beans reach the top of the pole the tops should be pinched off. This will make the plants produce sooner and better. Beans should not be hoed or plowed when they are wet with dew or rain.

Beet.—The fine varieties of beet are excellent and desirable food. Before planting the seed should be soaked twenty-four hours and planted as soon as the ground is in order and the season will permit. They prefer a light, loamy soil. The early bassano comes the earliest. It is turnip shaped, light red, tender and sweet. The early blood turnip is a standard sort, turnip shaped, blood red, very tender and good for early use and late keeping. The early yellow turnip is of a very beautiful yellow, very tender and juicy, comes early and will serve for both summer and winter. The long blood red, when the seed is pure, is a fine winter beet. There are other varieties, and some wholly for field culture. To keep beets they may be buried in the fall in the earth beyond the reach of the frost, or they may be put in boxes in the cellar and covered with earth or sand.

Cabbage.—This is one of the most important vegetables. There are many varieties named in the catalogues of seedsmen, but a few leading sorts are all the farmer requires. The seed for early summer cabbages can be planted in a cold frame early in September, and the plants must be protected from the cold and occasionally air given them during winter. These make earlier heads when transplanted in spring than those started in hot beds. For late cabbages the seed can be planted in a box (to secure them against the fly) in June, which box should be elevated three feet from the ground.

The early York and the early Winningstadt are two of the best early cabbages. The late York follows these. The premium flat

Dutch, by planting the seed early, will furnish fine cabbages for fall, and if the seed is late planted, for winter. Add to these the late drumhead, the drumhead Savoy and the large Bergen, and no farmer need desire more. The red Dutch, for pickling, should be planted out early. It requires all the season to make a good head. Kohl rabi is a turnip rooted cabbage. There are two kinds, green and purple. They have the flavor of cabbage and turnip, and should be cultivated like ruta baga.

The soil for cabbage, should be heavy, moist and rich. The plants should be placed eighteen inches apart for the large, and fifteen for the small. They can scarcely be hoed too often.

There are several ways of preserving them for winter. A few can be kept well by planting them out in a cool cellar. Market gardeners dig a trench on the north side of a fence; place the cabbages, head downwards, in the trench, and cover them with earth; then dig another, and so proceed until all the cabbages are disposed of. Rails or stakes are then placed over the cabbages, so as not to injure them by pressure, and these are covered with straw and litter. Put away in this manner the cabbages keep well, and can be obtained at any time, as wanted for use.

Cauliflower.—These can only be successfully grown in the northern section of the State. Occasionally they may be made to succeed in the southern section. There is an early and late variety.

For the summer crop, the plants should be started in a cold frame in September, to be protected as in the case of cabbages planted at that season. For the fall crop plant early in spring, and treat like late cabbages, giving them plenty of water should the season be dry.

Brocoli, which is a species of cauliflower, can be grown as recommended for the cauliflower.

Carrot.—The carrot is esteemed as an ingredient of soups, and is a favorite with some persons for the table. The seed should be soaked and rolled in plaster or leached ashes. This will encourage them to start before the weeds. The carrot is cultivated as the beet. They can be kept in winter by being packed in sand.

There are only three varieties we would recommend for the table—the early horn, the long orange, and the blood red or purple. There are several other varieties grown as field crops.

Celery.—This is one of the luxuries of the garden. There are many varieties in cultivation. Rose colored, solid, and silver giant, are recommended as best. When well cultivated, they grow to large size, are solid and rich.

The plants for early celery must be started in a hot bed. For the late crop, a bed may be made in a place in the garden, not too much exposed to the sun, the seed sown shallow, and the ground beaten lightly with the back of the spade, to settle the earth about the seeds. When the plants are three inches high, thin them out

to four inches apart, and when six inches high transplant them six inches apart in trenches prepared to receive them. These trenches should be four feet apart, one foot wide and ten inches deep. About three inches of rotten manure should be put into the trenches and this worked with the spade into the bottom soil. The tops and roots of the plants should be shortened before they are set out. Earth up the plants, to blanch them, two or three times during their growth, holding the leaves with the hand while the earth is drawn up, taking care that none falls into the centre of the plant. Celery pays well for superior culture.

Celery is often grown by transplanting on the surface of the ground, and bleaching it by covering it up in the earth in winter; but such cultivation only secures a common article.

Celery can be preserved in winter by digging a trench on dry ground, of sufficient depth to receive it—lay it in something in the form as recommended for preserving cabbages in winter—the roots at the bottom, laying it on one side of the trench, say at an angle of 45 deg. Cover it with earth, and then with straw. In this manner celery can be saved so that it can easily be had any time in the winter, and will be found perfectly crisp and fine.

Cress, Pepper Grass, Tongue Grass.—The seed of this plant is sown for an early salad. There are two varieties—the curled and broad leaf. The seed should be sown early and thickly, in broad shallow drills.

Cucumbers.—These are found in every vegetable garden in their season. They are highly esteemed in warm weather for their cooling and refreshing qualities, and make the best pickles. The early Russian is the earliest, and grows about three inches long. The short green is very prolific, handsome and early. The London long green, is long and of good flavor. The gherkin is a small prickly cucumber. All these make excellent pickles.

Cucumbers for early use may be planted in the open ground in spring as soon as the weather becomes settled and warm, in hills four feet apart, the ground being rich and light. Put about a dozen seeds in a hill, cover an inch deep with fine earth, and spat it down with a hoe. Hog dung and ashes are said to be the best manure for cucumbers. If the plants come up well and the bug spares them, thin them to four in a hill and hoe them often. If the bug attacks and is likely to destroy them, plant more seed. For pickles the planting may be done early in July.

Egg Plant.—The plants should be started in a hot bed, or in a bed of earth placed in a sunny window. They may be set out three feet apart. The ground should be rich and warm. The early long purple is the earliest. The large oval purple grows the largest, and is most generally cultivated.

Indian Corn.—"Roasting ears" are a favorite food, and so much desired that pains should be taken to have it in perfection from the

coming in of the earliest varieties until vegetation is arrested by frost. This can be done with a little attention. Smith's early white, is, probably, the earliest variety. The sweet corn, known as the red cob, having a short, twelve rowed ear, comes next. This can be followed by the mammoth sweet corn, which can be made to fill up the season by planting early and late. This variety produces an ear a foot long, eight rowed, large kernels, and the cob is completely filled over at the end. It is very productive—requires rich ground—should be planted in hills three and a half feet apart, and no better variety can be had. There are other kinds of corn used for the table, but if a farmer has those we have named, he has enough.

Lettuce.—Of lettuce there are many varieties. The early curled Silesia is a superior early variety. Give it room and it will make a large loose head, and is of excellent flavor. Green head lettuce is a hardy dark green, grows low, with round leaves, and round hard head, and is tender and excellent. Other varieties are—imperial cabbage, ice coss, brown head, brown Dutch, and many others, all fine. To obtain early lettuce for cutting, the seed may be sown thick; but for heading, the plants must be at least one foot apart, be planted on rich ground, and be kept free from weeds.

Melon.—This is a popular fruit, and in later years we have very improved varieties. Of the canteloupe, there are many sorts. We name Christiana, green citron, pine apple, beechwood, Skillman's fine netted and large cantaloupe. Most of them have green flesh, are sweet and of high flavor. They are all more or less netted. The large musk melon is an old variety, long, ribbed, and has a musk flavor.

The ground for melons should be dry, warm and rich. The hills should be six feet apart. A dozen seeds may be planted in a hill, to be thinned out to four when danger from the bug has passed. When the plants have four or five rough leaves, the leading shoot is to be pinched off. This will cause the plant to throw out lateral shoots and hasten the appearance and maturity of the fruit.

Water Melon.—The water melon is also a general favorite. The soil selected for it should be rich, warm and light. The hills should be eight feet apart. The seeds should be planted as soon as there is no danger from frost.

There are many fine varieties. The following have red flesh, are sweet and fine: Mountain sweet, mountain sprout, Spanish and Long Island. The last is the earliest variety. The orange water melon has peculiar characteristics. By a little care in taking off the rind, the whole pulp will come out in solid mass, beautiful beyond description. The flesh is red, sweet and rich, and seeds white. The citron melon is alone valuable for preserving. Its flesh is white, solid, and seeds red.

Nasturtium.—This plant is sometimes cultivated for its green

seed pods, which make a fine pickle, preserved in vinegar. The leaves being pungent, are by some used in sauces. The seed can be sown in drills in the spring, and the tall kind should be provided with bushes or trellis to run upon.

Okra.—This plant is sometimes called "gumbo." The seeds, well soaked, are planted in May in drills six or eight inches apart. Its green pods are used in soups. Its seeds, of which it produces many, have been used as coffee, for which they are said to be a tolerable substitute.

Onion.—There are many distinct varieties of the onion—the top or tree, potatoe, Weathersfield red, and other varieties raised from seeds. The tree onion is grown from seed bulbs, which form on the top of the stalk. The potatoe onion is planted as the potatoe, and grows in clusters under ground. Wethersfield, in Connecticut, is celebrated for its excellent onions. The manner of growing them there is thus described by Comstock, Ferre & Co., the distinguished seed growers of that place:

"Onion seed is sown from the first to the middle of May—the earlier the better, provided the ground will work light and fine. After preparing the ground by manuring heavily and thoroughly plowing and harrowing and raking fine, draw drills fourteen inches apart, with a marking rake, and sow at the rate of eight pounds of seed to the acre, if wanted for bunching. For large bushel onions six pounds will be sufficient. The sowing is mostly done by machines, which can be graduated to sow any desired quantity to the acre. If convenient, it is better to go over the ground with a light roller, immediately after sowing. It is customary to weed them three times. At the two first the earth is drawn up a little to the plants, and at the third or last weeding it should be brushed clean away with the fingers, to give them an opportunity to bottom entirely above ground. Onions are an exception to the theory of a rotation of crops. They succeed equally well any number of years on the same ground, if kept highly enriched with manure. A top dressing of wood ashes applied after the second weeding is very beneficial to this crop, as will soon be observed by the dark and healthy color given to the plants. This mode of culture, we believe, will produce fair crops of onions, with seed procured from Weathersfield, or which shall be good."

The same gentlemen add: "To keep onions in quantity through the winter, deposit them, when perfectly dry, eighteen inches thick, evenly on a light floor in an outbuilding, leaving a space of two feet next the walls of the room on all sides; spread a sheet over them close round the edges of the heap; fill the space with fine hay, and tread it hard; then cover the whole two feet thick with the same and the onions will keep in perfect order. They should never be disturbed while frozen, but as soon as the frost is completely out in the spring, remove the covering and spread them all over the room, and open the doors and windows to give them air in pleasant weather."

Parsnip.—There is supposed to be but one variety of the parsnip. This is greatly improved by selecting the finest roots for seed and carefully taking the seed from the leading umbel for planting.

The ground for the parsnip should be light and rich, and be deeply trenched or plowed. The seed should be sown in drills fifteen inches apart as early as the season will permit. When the plants are three inches high, they should be thinned to eight inches distance. Parsnips continue to grow until late in the fall, and keep best in the ground during the winter.

Peas.—These are among the best and most desirable vegetables of the season. Many persons take much pains to obtain the earliest varieties. These can be planted as soon as the ground can be made ready to receive them. By a little care in the selection of kinds, peas can be had through the season as long as desirable. In early spring, when the ground is wet, they should be planted two inches apart to the depth of three inches. This depth, in planting, should be increased as the warm weather advances. For the latest crops the seed should be put into the ground to the depth of five, six, and even seven inches. Peas will not produce well unless their roots can find moisture to sustain their succulent vines. Peas are usually planted in double rows, eight inches apart.

The English gardeners are constantly originating new varieties of peas; but few of them, however, are improvements on some of the old. Three or four varieties will be sufficient for a family. The following selection is good, though undoubtedly there may be others equally valuable. The extra early May grows two feet high; very productive and fine. Comstock's earliest dwarf is another of the earliest. It does not require sticking, is an excellent pea and very prolific. This variety will give good satisfaction. Dwarf blue Prussian grows three feet high, a great bearer and an excellent summer pea. Bishop's dwarf long pod, two and a half feet high, excellent and wonderfully productive. Champion of England, three to four feet high, peas whitish, shrivelled, regarded as the best in the list. The large white marrowfat is an American and late variety, grows, sometimes, eight feet high; a most excellent and prolific pea.

Peppers.—These are tender plants and the seeds should be sown in a hot bed to forward their growth. When the weather becomes warm and the ground is in good order, they can be transplanted in rows about a foot and a half apart. If properly attended, kept free from weeds and occasionally hoed, bringing earth up around the stalk, they will fill up the space between the plants. There are several good varieties and many crosses which are of much less value. The small, long cayenne and cherry are for making pepper sauce. The squash, the bull nose, the sweet mountain and sweet Spanish are for pickling, and they are all good for

this purpose, though the last is entirely destitute of the pepper pungency.

Potatoes.—There are several early varieties which are convenient for garden culture—the kidney, mountain June and Neshanoc. They may be planted as soon as the ground can be got in order, and for an early crop it should be warm and light and not too rich.

Radish.—The radish came from China. It is a very desirable early vegetable. The earliest are raised in hot beds. In the garden the seed is sown as early as the ground can be prepared. The soil should be very warm and light, and, it is said, if enriched by strong manure, the radish will not be injured by insects. Sow in ten inch drills and thin them to two inches apart. Radishes must grow quick or they are of no value.

Standard varieties are: Early short top long scarlet, scarlet turnip and long salmon. These will mature as they are here arranged. The yellow turnip radish is the best variety to bear the heats of summer. The black Spanish and winter China are for winter use. The seed of these should be sown in the last of July, and the roots should be taken up before heavy freezing and put away in the cellar, covered with sand.

Spinach.—Two varieties are sufficient. For the spring crop, sow the seed in the last of September or later, in drills, and cover with straw or light litter. For the summer crop, sow early in spring. The ground should be very rich. The round leaf is the variety for summer and the prickly for fall sowing.

Squash.—These are natives of the south, and are properly divided into summer and winter squashes. Two good varieties are sufficient. The early bush summer crookneck is the richest sort, very productive, covered with warts, the shell very hard when ripe. These are eaten when they are green. The autumnal marrow squash, for fall and winter, was deemed the best. The Lima cocoanut, long and blue, is excellent. Latterly superior excellence is claimed for the Hubbard squash, dark green color, larger than the autumnal yellow, and having hard shell.

This may be a proper place to recommend farmers to cultivate but a few chosen sorts of melons—water melons, squashes and cucumbers. Obtain good varieties, plant them at a distance from each other and keep up their excellence by selecting the choicest specimens for seed. All these named will mix with each other, and also with gourds. It is imperatively necessary that this caution should be attended to.

Salsify.—This plant is sometimes known by the name of vegetable oyster. It should be planted and cultivated as the parsnip. It grows to the size of small parsnips. Its roots can be taken up in the fall and preserved in sand, or they may be left in the ground

for the winter. They are delicious when cooked and dressed as asparagus.

Tomato.—Tomatoes, to have them early, should be started in hot beds, or, for want of such, in pots, set in a warm window. The plants delight in warm, dry ground, and if it is light and poor the fruit will sooner mature. Plants put out in heavy, rich ground will not be very much benefited by being started early. Hoe often. The tomato produces most satisfactorily by being trained up on bushes or frames.

There are two standard varieties—the large smooth red and yellow. Most persons prefer the red. There are also small yellow and red varieties, for pickling.

Turnip.—The English cultivate numerous varieties. Many of them do not succeed well here. We require a good early and late kind. The white top and red top strap leaved turnips, varieties which originated in this country, have taken the lead of all others. As an early turnip, sown in spring, they are fine, and they are excellent for fall and winter.

For the spring crop, sow as early as the seed can be got into the ground, in fourteen inch drills, and thin to five or six inches. Keep them clear from weeds, and when the bottoms begin to enlarge, brush away the earth about the roots to the depth of half an inch, and give them a dressing of wood ashes. This will prevent injury from worms in old gardens.

The winter flat Dutch, ruta baga and many other varieties are only suitable tor field culture.

GARDEN HERBS.

No garden should be without a bed of these herbs:

Sage.—There are four varieties of sage. The red is best for common purposes. The seed should be planted early in a well prepared bed—the plants thinned to six inches and kept free from weeds. It is a perennial. The leaves can be taken from the plants the first year in the latter part of the season.

Summer savory is an annual, raised from seed. The plants can be gathered when in flower and dried for use.

Sweet marjorum is a biennial, raised from seed. The leaves should be gathered while the plant is in flower.

Thyme is raised from seed. "Its leaves are used for soups and sauces, green and dried."

Parsley is a biennial. Its leaves are used green for soups and garnishing dishes. To have it green in winter roots should be taken from the garden and transplanted into the cellar.

Lavender is a perennial, raised from seed. It has a powerful aromatic flavor.

Coriander is an annual. Its seeds are often used in seasoning meats; also, in medicine.

Lemon balm is raised from seed or roots. It has medicinal qualities.

Fennel is a perennial, raised from seed. The second year it should be transplanted where it can occupy four feet of ground. Its seeds are warm and aromatic. The plant is not of great value.

Caraway is raised from seed. The seeds are sometimes used in cake, but oftener in medicine.

In concluding this treatise, the writer would say, that he supposed a manual or treatise prepared in the form of this would be of value to many farmers of Illinois. Some of the descriptions of vegetables and their proper mode of cultivation are the results of his own experience. He has also freely examined the works of several practical writers on kitchen gardening, and availed himself of information gathered from those sources in all cases where he thought it would be useful. In the words of another, he will add, that "It is one of the best natured delights of all others for a man to look about and see nothing but the effects and improvements of his own art and diligence; to be always gathering some fruits of it, and at the same time to behold others ripening and others budding; to see the soil covered with the beautiful creations of his own industry; and to see, like God, that all his works are good."

THE PRAIRIE FRUIT GARDEN.

By Samuel Jacob Wallace, of Hancock County.

This is a subject of very great interest to every dweller upon our prairies, and to those who would make permanent homes upon them; a few suggestions on the subject indicated by the caption of this essay, based on the results of some experience, may be useful.

It is not necessary for an elaborate argument in regard to the value of fruit as a portion of human food, for health and pleasure, or the beauty of a good fruit garden to every man and woman of taste; the love of home which it creates and fosters, and the great addition which it adds to the worth of the farm as a pecuniary investment. These facts cannot be controverted.

THE GROUNDS FOR GARDEN.

The grounds selected for the garden, should be rolling swells upon the prairie; and if not sufficiently drained naturally, this should be done either by surface or "blind" underdrains. The grounds should be protected by good and sufficient fence. A hedge would be the best protection, and this should be suffered to grow high, in order to break the winds which sweep over the prairies. In addition to this protection against winds, two rows of evergreens planted out within and near the hedge, so that the inner row would cover the open spaces in the first row, would add very much to the security of the garden against prairie winds, which in February and March, cause destruction to fruit trees.

The ground should be plowed in the fall. It should be thoroughly and deeply plowed. The double Michigan plow would do this work well. In the spring, when the ground is in suitable order, again plow. Make it mellow, soft and loose. Horse cultivation is what we must depend on.

In planting, the most satisfactory plan will be in hills. The most of the smaller fruit trees, vines and shrubbery, eight feet each way would be about the right distance for the hills. Nearly all the smaller fruits can fill up that space. At that distance, "lands" can be plowed each way between the rows of hills with two horses,

and cultivation with the cultivator and harrow can be adopted, rendering this work easy and doing it well.

A good sized garden for a family would be two or three acres. If there is a market, it would be profitably increased to five.

FRUITS, VEGETABLES, &C., AS THEY RIPEN—WITH REMARKS.

MAY.—*Pie plant* supplies the place of fruits very well. Linnæus is the best kind, early, tender and pleasant. The Victoria is next in popularity and season. The giant is large, and there are other good kinds. This plant delights in plenty of room, rich soil and good cultivation. In the fall or spring the roots can be divided and new beds made. Plants from seed are very uncertain and inferior.

Patience dock comes early, and makes good greens.

Asparagus should be planted in beds or rows, and patience dock and horse radish may be planted in the same way.

JUNE.—*Service berries*, when fruits are rare, are good and pleasant to eat; plants hardy and well worthy of cultivation.

Cherries.—Of this fruit the dukes and morellos are our main dependence. Early Richmond or early May is the earliest, most hardy and profitable. May dukes do well for a few years. Heart cherries do not succeed as standards. As dwarfs, grafted on the mahaleb and planted at eight feet distance, they *may* do better.

Strawberries are our most delicious fruit in June. The fruit is easily grown and is indispensable. The plants may be put out in beds or in rows. Some of the best kinds are necked pine, early scarlet, crimson cone, Hovey's seedling, Wilson's Albany Hooker's seedling, Burr's new pine, McAvoy's superior.

Gooseberries are a valuable plant in June. In some parts of Illinois English gooseberries mildew. The Houghton's seedling never mildews, and though it is not as large as some English varieties, it is remarkably prolific, and good—even better than that of many large English varieties. It is not unusual to gather a peck of this fruit on a well grown plant.

Currants.—Of this fruit there are many kinds, some of which we have recommended in a list at the close of this essay. The red and white Dutch or white grape, are excellent and productive. The black Naples is a good variety of the black currant. In order to fully develop this fruit, the plants require high cultivation, to be well manured and properly pruned. With this cultivation the fruit will be large, excellent and abundant.

JULY.—We have a continuation of late cherries, strawberries, gooseberries and Victoria currants.

Raspberries.—This fruit is now in season. All the varieties are subject to be winter killed, if left unprotected, except Allen's hardy and the native black cap. The names of several varieties will be found in our list. The tender varieties must be laid down in

winter and covered with straw. Allen's hardy does not need this protection, and it promises well.

Blackberries.—This fruit is becoming popular for garden cultivation. It is popular with all people. Plants produce prodigious quantities of fruit. New varieties of this fruit, of approved excellence, bring high prices in market. Of the improved sorts cultivated, we may name the Lawton, Dorchester and Newman's thornless. All these are large and fine fruits. The woods of Southern Illinois produce varieties said to be fully their equal. We shall be disappointed if selections are not obtained from that source even superior to those named. The blackberry is destined to be a cultivated fruit, and when improved will be among the most popular. *Dewberries*, or trailing blackberries, are common in old fields in Southern Illinois. The fruit is excellent, but the plants are not productive.

Early apples.—Early harvest, sweet June, red June, &c., are often ripe at the close of this month—sufficiently so for cooking purposes.

August.—Blackberries, late strawberries and mulberries are still in season. Early apples ripen through the month of August.

Native plums are now ripening. Selections have been made by cultivators, which lose little by comparison with those of foreign origin. The "Masterion" is a large, round, early variety, the skin very thin, the flesh sweet and delicious, a distinct kind, discovered by the writer about three years ago.

Early peaches are now ripening. We have named varieties of approved excellence. The new system of preserving this fruit by canning, will largely increase the demand for it.

Plums.—Yellow Gage and other varieties are now in season. It is hoped that means will yet be discovered for preventing the loss of this fruit by the curculio insect.

Pears.—Early varieties are now ripening. We have confidence that both dwarf and standards will succeed when our grounds are thoroughly drained and we have protective skirts of evergreens around our orchards.

Melons.—The choicest of the tropical fruits come to entire perfection in our climate. They ripen in a season when they are peculiarly desired. Of the watermelons the ice cream, orange, mountain sweet and mountain sprout are among the best kinds. There are others of equal value. Of the muskmelon or cantaloupe variety the nutmeg, beechwood, christiana, pine apple, are very desirable and delicious.

September and October.—Early fall apples are now in season. Native and foreign plums are in their glory. Peaches, worthy to stand in the temple of Pomona. Pears rejoice you with their deliciousness. Melons, squashes, tomatoes greet you at your meals. Grapes—emblems of peace, plenty, joy and prosperity—gladden your sight as they hang in abundance upon the vines. This fruit,

for various purposes, ranks in importance next to the apple. In a garden, where the grounds have been properly selected and suitable cultivation given, the grape produces fruit early and abundantly. We have given a list of varieties, early and late. By selecting some of each, the season of ripe grapes can be made to last two months, and some varieties, well packed, can be kept till mid winter. Plants well cultivated will bear the third year. In the northern part of this State the Catawba and Isabella will produce best by being laid down and covered with straw during winter.

November and December.—The late fall apples are now in season.

There are many vegetables which should now be in season and abundance—sweet and other potatoes, squashes, turnips, beets, carrots, celery, &c.

January and February.—Winter apples should be in perfection. Most of the vegetables named for November and December should be had. The celebrated Hubbard squash, equal in sweetness and richness to the best sweet potatoes, and superior to all squashes, will be acceptable now, if it has been kept in a dry place away from frost, and will be good in March.

March and April.—Late keeping apples, of which there are many varieties, are in season in these months. The janet, winesap, willow-twig, white winter pearmain, Talman's sweet, and other varieties, when other vegetable food is usually scarce. Canned peaches, always fine, come with a double relish now. Canned strawberries, raspberries, and blackberries are equally desirable.

We have thus hurried through the year. We have endeavored to show that, by selecting suitable grounds, by protecting these grounds from the heavy winds which pass over our prairies, and from the scorching winds and frosts that come prematurely in February and March, and by proper cultivation and care, the farmers of our prairies can secure the richest fruits given to man by Deity, and can carry their enjoyment into every month of the year.

MISCELLANEOUS FRUITS.

In our plate of the "Prairie Fruit Garden," mention is made of whortleberries, cranberries, wild plums, mulberries, and other native wild fruits. These are valuable fruits, some of them already domesticated in our gardens, and others will be. Doubtless their qualities, now excellent, will be improved by cultivation.

STOCK FOR THE PLANTING OF THE MOST IMPORTANT FRUITS.

Get apple trees two years old, selected. Grapes one year old, strong and healthy plants, or cuttings if plants cannot be had. Currant bushes one year old, or cuttings. Gooseberries, one year

old, or cuttings. Raspberries and blackberries, with roots. Pie plants, stout roots. Good trees, plants and seeds of other fruits.

Plant in hills each way, except apples, (which should be distant from each other 24 to 32 feet); and strawberries, which may be planted in rows four feet apart.

Time of Bearing.—*First year*—Melons, squashes, &c. *Second year*—Strawberries, raspberries, blackberries, gooseberries, pie plant, asparagus. *Third year*—same, with grapes and currants. *Fourth year*—Peaches, plums, dwarf pears. *Fifth year*—Apples, mulberries, quinces, cherries, &c.

PLAT OF THE PRAIRIE FRUIT GARDEN.

[See Engraving.]

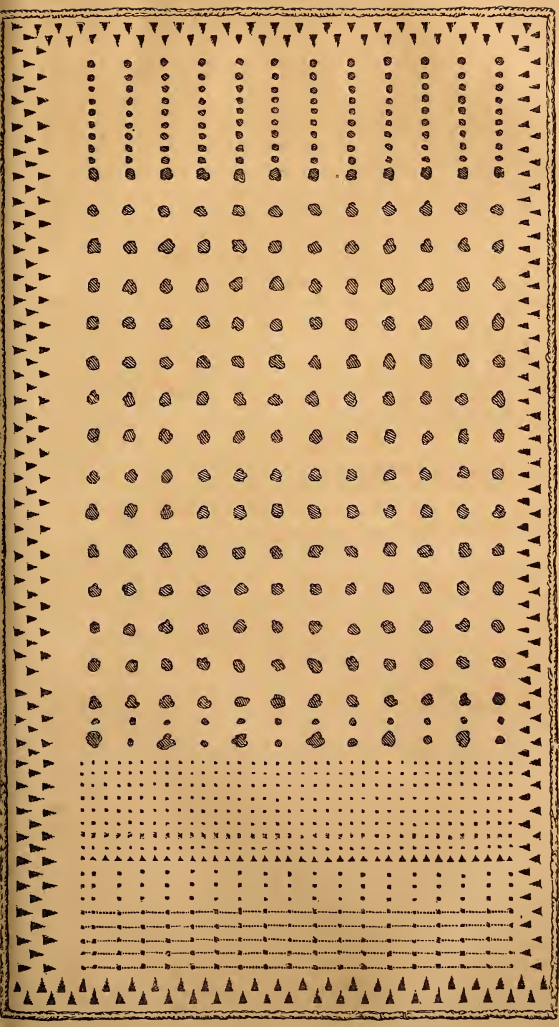
EXPLANATION OF ENGRAVING.

The outside row all around set with osage orange hedge, 120 rods, 3000 plants, 8 in.
2d—two rows evergreens.
8 rows—104 apple trees, 33x33 feet, set alternate.
4 rows—52 cherry trees, set behind the apple trees to protect them from the sun in winter.
1 row—13 foreign plums, on wild plum roots.
3 rows—39 dwarf peaches, [on plum.]
1 row—51 " " " 8 ft.
1 row—51 native plums.
1 row—50 pears and quinces.
1 row—50 blackberries.
1 row—50 black cap berries.
1 row—50 raspberries.
1 row—50 currants.
1 row—50 Houghton gooseberries.
1 row—50 pie plant, patience dock, &c.
1 row—50 service berries, huckleberries, barberries, &c.
1 row—50 grapes, early.
1 row—50 grapes, later, for putting away.
1 row—26 mulberries (black.)
1 row—50 willows (basket) stools.
3 beds—strawberries, 1200 ft. length.
2 rows—102 hills melons, 8 ft.
2 rows—102 rows hubbard squashes, &c., (winter.)
Rows vegetables, &c.
10 grapes on the south end of rows.

410 fruit trees.
112 grape vines.
275 hills of berries.
50 hills of pie plants.
204 hills vines.
3 rows strawberries and cranberries.

[On one side of the fruit garden a lawn of one or two acres, with shrubbery, &c., and the home may be placed.] This can be cultivated with horses, and can be well done in half the time of a good cultivator.

Note.—In engraving the plate, in order to make it come within the page, it became necessary to contract it, so that the rows do not contain the same number of plants and trees which were in the original design.



PRAIRIE FRUIT GARDEN.

[Face page 516.

LIST OF GOOD VARIETIES OF FRUIT TREES, SHRUBS AND PLANTS, FOR THE FRUIT GARDEN.

13 summer apples—3 early harvest, 4 red June, 3 benoni, 3 sweet June.
13 fall apples—3 golden sweet, 3 rambo, 3 golden russett, 4 maiden's blush.
13 early winter apples—3 porter, 3 fameuse, 3 yellow and 4 white belleflowers.
13 mid winter apples—3 winter sweet, 3 sweet paradise, 7 orange apple.
26 late winter apples—13 Rawle's janet, 13 green Newtown pippin.
26 spring apples—7 wine sap, 6 Jonathan, 8 willow twig, 5 Roxbury Russett.
52 cherry trees—13 early Richmond, 13 morello. (This number can be increased from the dukes, but they are of doubtful success.)
13 plum trees—best varieties.
90 peach trees—13 early York, 18 Haines' early, 13 early Crawford, 13 Coolidge's favorite, 13 late Crawford, 13 old mixon cling, 13 old mixon free.
50 plums, native—good varieties. These can now be had at many nurseries.
50 pears and quinces—13 standard pears, 13 dwarf pears on quince, 13 dwarfs on thorn, 11 quinces.
50 blackberies—12 Lawton, 12 Dorchester, 26 of selected native varieties.
50 raspberries—13 Allen's hardy, 13 orange, 12 franconia, 12 monthly.
50 black cap raspberries—natives or Doolittle's improved.
50 currants—10 cherry, 10 Victoria, 10 red Dutch, 10 white grape, 10 black Naples.
50 Gooseberries—40 Houghton's seedlings, and 10 of English fine varieties.
50 plants—20 Linnæus rhubarb, 10 Victoria, 10 giant, 10 patience dock.
50 shrubs—25 service berries or June berries, 25 whortleberries.
50 early grapes—Delaware, Concord, Clinton, Isabella, Diana, &c.
50 late grapes—Isabella, Catawba, &c.
25 black and red mulberries.
600 strawberries, 2 feet apart—200 necked pines one row; 200 early scarlet one row; Hooker's and Wilson's seedlings one row; 200 assorted one row; a few cranberries, if desired.

Note.—In the selection of fruits, absolute perfection is not attempted—but some of the best varieties are named.

SORGHO AND IMPHEE SUGAR CANES.

By Isaac A. Hedges, of Ohio.

In a treatise professing to discuss the characteristics as well as cultivation and manufacture of an agricultural production adapted, as are these varieties of sugar millet or cane, to latitudes and soils so various, it must be apparent to all that difficulties lie in the way of embodying, in general directions, such formula as shall meet the exigencies of every occasion and circumstance. The following are based upon experiments and observations made throughout the northern and middle States, and ought rather to be received as general than special in their deductions.

The Chinese cane has, thus far, given encouraging evidences of improvement, in becoming Americanized, on several farms to which my attention has been directed. I have observed a more vigorous development of the plant in '58 than '57, and an increase of the saccharine richness of the juice, varying, in different localities, from one and a half to four degrees of Beaum's saccharometer. It should be borne in mind, however, that a more propitious season may have tended largely towards producing, if it has not wholly effected this result.

Whether the Chinese will hybridize with the Imphee or African variety, and, if so, what the hybrid product may be like, I have no means of judging, and would suggest that experiments in that direction, another season, must lead to highly interesting and perhaps to important results. Mr. Wray, who introduced the latter into this country, thinks the two varieties will not cross. As other varieties of the *holcus* family appear to readily hybridize with both the Chinese and African, I deem it proper to guard the public against planting either in situations contiguous to fields of broom or dhoura corn, and would advise planting apart from each other, until experiment may have determined whether any deterioration takes place from such conjunction, as is known to be the case when planted near broom corn.

As regards the comparative value of the two plants, it is a difficult matter to form a correct estimate. The Imphees are subdi-

vided into several distinct varieties, but few of which are believed to be adapted to this latitude, and of these few, not all have proven chrystalizable into sugar. The balance, except in cases where there have been good reasons to believe the seed was either hybrid or not genuine, have generally yielded syrup in quantities and of a quality which compares favorably with the Chinese or sorgho. It has been observed to manifest a tendency to become sickly and to be infested with a sort of honey dew insect, at about the period of its growth when the tuft appears, but though these vermin swarm in numbers sufficient, seemingly, to devour the plant, they soon disappear, leaving no visible mark of injury. Many who have grown both Chinese and African cane accord their preference to the latter. Among the most distinguished of these, are ex-Governor Hammond (now Senator,) from South Carolina, and Brutus J. Clay, Esq., the president of the Kentucky State Agricultural Society. S. Francis, Esq., the editor of the Illinois Farmer, has shown me an interesting letter from a farmer in Tazewell county, in that State, who has successfully granulated sugar from eight varieties of the Imphees out of nine, which he had planted, and who expressed himself in a very sanguine manner as to the probability that the Imphee will supercede the Sorgho in Illinois. From the drawings which I append, the photographical difference in the distinctive features of the plant will be readily observed—the Imphee being thicker than the Sorgho at the base, and hence more capable of withstanding the effects of winds and beating storms prevalent in prairie States.

SORGHO.

The Chinese or Sorghum is too well known to require here a detailed description. It appears to be one of the most hardy plants known to our agriculturists, and I am of the opinion that facts justify, at least, the hope of its successful reproduction from the planting of the joint, when due care has been exercised in its preservation through the winter. Very good crops have, in many instances, been raised from seed which had been accidentally dropped upon

IMPHEE.

the ground in the fall, and lay exposed the winter following, germinating and growing vigorously in the spring. I have reason to believe that the seed may be sown with oats in the spring, and after the cutting of that crop yield a most excellent green-soil or fall feed.

In the cultivation of both these canes, dry warm land, with southern exposure seems best adapted to rapid and thorough development. It is unquestionable that a calcareous soil is the best which can be selected, the alkaline properties of the ground having chemically a direct action favorable to the production of sugar, and tending to prevent or destroy the acidity which is so antagonistic to chrystalization. Drilling in the seed is very highly recommended by a large portion of my correspondents, and many favor ridging the rows, which I heartily commend, as it serves to prevent wet feet which the cane suffers from and has to pay for in juice of feebler saccharine development. It may be well to bear in mind that the production of huge canes is not by any means a desideratum, as their green stalks are frequently much less sweet than smaller ones. Heavy wet soils favor the growth of wood, fibre and a large amount of aqueous juice, lacking in saccharine, while good, warm dry soils afford less of the former as well as a decreasing quantity of the latter, far richer, however, in quality.

Those who will take the trouble, may plant early in hot beds, and transplant about the middle of June into rich mellow ground, thereby securing a corresponding acceleration of maturity in the fall, and an avoidance of weeding the tender plant when it first makes its appearance in ordinary field planting.

Missing hills may be supplied from adjacent ones, by transplanting better than by re-seeding. The testing of the germinating properties of a small portion of your seed, in damp cotton, some time prior to the general sowing season, may help to discover, in time, whether they have that which is good or not. Like all other crops, the sugar cane repays judicious and liberal cultivation, but I do not advise the stirring of the ground late in the season, as such action appears to stimulate the growing energies of the plant, when there seems rather a natural necessity for discontinuance of action in that direction, in order that the forces of the plant may be directed to the maturity of the seed and the development of saccharine in its juice. The bulk of testimony favors, in my opinion, the non-removal of the tiller or suckers from the growing plants. My observation leads me to advise the removal or stripping of the leaves a week or more prior to the time of cutting or working the cane, as soon as the seed is fairly in the milk. If the leaves are to be saved for forage, the hand is about as convenient as anything to effect this, otherwise, a stick, like a small walking stick; care, however, is requisite not to break or bruise the stalk, as souring will result therefrom. The upper end being bare, being less early of maturity than that below, it will not be found advisable to use beyond three-fourths of the lower portion of the

cane, where the design is to produce syrup, and even less for sugar. The Louisiana or India cane requires great discretion on this head to avoid injury to the granulation of the crops. An oblique, downward stroke, in cutting, favors the feeding of the stalk to the small horse power mills, most generally in use. Several intelligent parties, with whom I have communicated, state that slight frosts are no injury to the cane; but others, whose opinions accord with my own, believe otherwise, and advise that, when practicable, the cane be cut before frosts, and either shocked or sheltered, where it may stand some weeks uninjured, or never be exposed to considerable cold, without material injury, and, if I am correctly informed, growing constantly sweeter.

Few, probably, will need reminding that the ends should be kept out of the dirt, in handling, after cutting.

It is a conceded point, we believe, that rapid boiling is absolutely essential to success, either in making sugar or good syrup. Boilers best suited to evaporation are those which have a considerable extent of fire surface and which do not admit the fire too high around the sides or edges. These should, if shallow, have either curbs or flaring rims, where the expansion into foam and bubble, which accompanies rapid ebullition, may exhaust itself. A few inches of syrup are sufficient to have in the kettle at any time. This allows the steam generated in the bottom of the mass of liquid to freely escape without being smothered or recondensed in passing through the latter, to float away as vapor in the atmosphere. When this rapid conversion of the aqueous portions of the juice into vapor takes place, without interruption, called by sugar makers throwing up, I believe, it is said that the grassy taste and unpleasant odor, often complained of, are either removed or greatly lessened.

The use of evaporators, made of sheet metal bottoms and ends, with wooden sides, has been much discussed and commended by many; experiment, however, proves that, except in cheapness, they cannot in any wise compete with cast iron. I have before me an interesting report of a comparison of these pans with those of cast iron, from Mr. Jacob Clark, of Locust Corner, Clermont county, in this State (Ohio,) which states that evaporation proceeds more uniformly and continuously in the cast boiler and yields a fairer result in quality. The reasons adduced by Mr. C. are, that sheet metal, from being thinner and consequent inability to retain heat, allows the boiling to cease every time the fire subsides in the furnace, or whenever the fire doors are opened, added to which is incurred liability to scorch in striking the batch of syrup or sugar.

A series of experiments, made by me, with covered kettles, did not convince me of its advantage over open ones, in any respect, and the disadvantages, in the way of skimming, are considerable.

A new boiler, constructed with flues, by which the amount of fire surface is very greatly increased, has been lately made and tested by

me, and the result was so interesting that I cannot forbear giving here a report of it. I placed 45 gallons of juice, marking 10 degrees B., in my boiler, which, in 30 minutes, was brought to a boil, after which, in one hour, I inspissated it to 11½ gallons, making 34 deg. B., hot, and consuming 310 lbs. of wood. My furnace was new and wet, which, doubtless, extended the time necessary to boil the juice, as was proven by my record trial. On the latter occasion I placed 72½ gallons of juice, marking 5 deg. B., in the kettle, which boiled in 20 minutes, and was reduced to 15 gallons, at 34 deg. B., in one hour and fifty minutes after commencing to boil, and consumed 315 lbs. of wood. The latter batch had the advantage of a hot furnace to commence with.

On another occasion I made a trial, less satisfactory, perhaps, in rapidity of inspissating the juice, but interesting, nevertheless, in furnishing some data of a practical nature, which is given below.

I divided 74 gallons, at 10 deg. B., placing a portion in the kettle and the balance in the tank, convenient to draw from into the kettle, and, as soon as boiling commenced in the latter, I permitted a stream to flow in from the tank. In 34 hours I had reduced this to 12 gallons of very pleasant syrup, marking 40 deg. B., cold. I believe that syrup of this consistency will keep through hot weather, without fomenting.

I was aided on the above occasion by one man, who, with one horse, and a one horse mill, expressed 50 gallons of juice per hour, averaging 10 stalks or canes in the mill, which were pressed quite dry. A boiler of double the capacity of that used by me would have enabled me to have kept pace with the mill and have allowed ample time to keep up my own fire, thus yielding, as the product of the labor of two men and one horse, eight gallons of syrup per hour, with the average consumption of fuel of three-fourths of a cord of wood in 12 hours. By the preceding it appears, allowing one dollar each for men, fifty cents for horse, two dollars for wood, and fifty cents for use of mill and boiler, you will have five dollars as the cost of manufacturing in ten hours 80 gallons of syrup, or six and one fourth cents per gallon. This calculation admits that day wages be paid to the producer himself; omitting which, we reduce the estimate to 4⅛ cents per gallon, exclusive of producing the cane, for which $15 per acre is a liberal allowance, or say 5 cents per gallon, with juice marking 10 deg. B. I believe these figures can and will be realized, especially when the fact is considered that my boiling was not conducted under as favorable auspices, nor with as happy results, as in the experiment previously alluded to with the flue boiler. I omitted, in the proper place, to state the advantages gained by having the boiler arranged with a draw-off valve, by which the "strike" can be accomplished in less than a minute's time. This lessens labor vastly and decreases the danger of scorching while that operation is proceeding. A wide fire place, with corresponding doors, are desirable, as they permit the temporary smothering of the fire with green *begasse* at that

juncture when the "striking" is commenced. Juice measuring 10 deg. B., has not been generally obtained, though where the cane was produced in favorable localities and matured perfectly, has, I believe, usually attained these figures, and has, in some instances, considerably exceeded them. I do not deem 10 as an extravagant calculation, therefore, for a general standard.

The clarification or cleaning of the juice at an early stage of the boiling, or as a preliminary to that process, has not, I think, been too strongly insisted on, though some of the modes for its accomplishment appear more ingenious than necessary. The use of any considerable quantity of lime is certainly not requisite, and tends to blacken the syrup, as do all alkalies. They are believed, however, to be preservative, removing liability to fermentation and neutralizing the acids which, when largely prevalent, impedes crystalization. As in treating the juice of the Southern or India cane, liberal skimming is not only a virtue but a necessity, and should not be discontinued until the batch approaches completion, or, in fact, until the feculent matter has been removed entirely.

Much speculation has been indulged in as to the cause and prevention of a peculiar scorched or slightly bitter taste, often prevalent in the syrup, when there was good reason to suppose that it could not have been burned in cooking or concentrating. The opinion has obtained entertainment recently that this is the result of a gluey or gummy feculency peculiar to the juice, which, as the heat is raised and the lighter portions are floated to the top, is precipitated upon the sides and bottom of the evaporator and there actually scorched, and, at a subsequent period of the boiling process, incorporated in the general mass, either in a state of solution or otherwise. My own investigations do not dispel my uncertainty on this point; but a correspondent, in whose opinion I have much confidence, asserts that stirring the juice constantly until the heat is raised to or beyond 160 deg. Fah. will prevent this precipitation. I beg to call the attention of practical operators to the matter, as worthy their most earnest consideration, another season.

Notwithstanding the unexpected length of this report, I cannot forbear to consider the application of steam to the expressing and evaporation of cane juice. This agent has only been tested with the Sorghum, to a limited extent, during the year just closed, but enough to prove that it serves as well with this as with the Southern cane. I think that the expense of an outfit for working off a crop by steam will hardly be justified, except in cases where it is contemplated to refine, or use the machinery for running a saw or grist mill, or for other work, during the vacations of the cane season. Steam boilers, with coil pipe covering the bottom and with wide flaring rims, like the hatter's kettle, and with a draw off valve at the bottom, to facilitate the "strike," seem to combine more advantage for evaporating than any other arrangement I have examined.

The vacuum pan is most esteemed in sugar making, but is only

used when the juice has been concentrated to or beyond 25 deg. B., and when the clarification is complete.

The process of refining is by no means an elaborate or at least intricate one. In the first place a supply of granulated animal (bone) charcoal is requisite. In the preparation of this large solid bones are preferred, which are placed in closed retorts and burned or heated by fire admitted from a suitable furnace around the retorts, until nothing but the pure coal or carbon remains. This is then removed and the coal broken or ground coarsely in a corn crusher or other mill of some sort. That which passes a No. 4 sieve is esteemed by refiners as sufficiently coarse. That which is not fine enough for passage through such a sieve is to be again ground and all of the remainder which passes a No. 10 sieve is considered too fine and is to be rejected for this use. This granulated or coarse coal is placed in wooden tubs, frequently six or eight feet deep, with faucets at their lower ends, which may be opened or closed at pleasure. A thick blanket or piece of carpeting covers the bottom of the tub underneath the coal, to act as a strainer. The syrup is now emptied into a tub or tank, called a "blow up," in the bottom of which is a wrought metal pipe, perforated at intervals with small holes, admitting the steam directly into the syrup when let on from the boiler. This raises the temperature to the boiling point, in due time, but as considerable of it condenses meanwhile, the syrup is reduced to 25 or 28 deg. B., by this condensation, and a thick scum is generally thrown up, which is to be carefully removed. If now drawn off and allowed to stand two or three hours, a considerable amount of sediment will be precipitated. It is then ready for the coal, upon which a stream about the size of a pipe stem is allowed to run, the faucet at the bottom of the coal filter being closed, until the filter tub is full. This should stand about ten hours thus, when the faucet below may be opened, and a small stream allowed to run out, and again the supply of syrup above be permitted to run in once more, in the same slow manner as before. This liquid is next to be reboiled to about 32 deg. B., while hot, if for syrup, and then drawn into a cooler, and stirred with a sort of plunger until cooled down to about 150 deg. Fah.; *otherwise there is danger of scorching itself in the cooler*, from its own heat confined within the mass by the cooling at the top crust or scum. This should not be lost sight of by any person who attempts syrup or sugar making. Before taking leave of the subject, it may be well to add that the syrup is followed through the filter with hot water, admitted in some careful manner, and when the stream issuing from below has too little saccharine for profitable concentrating, the balance, so long as any sweet at all remains in it, is used in the "blow up." The coal is now removed from the filter tubs and returned, a few inches from the top, being previously washed in hot water thoroughly. The coal retorts are usually tapering iron pipes, set in a brick chamber, into which the fire is admitted. The setting of these pipes is best accom-

plished in such a manner that their tops and bottom may be approached while the fire is going on inside the furnace and around their sides. When the coal is sufficiently burned remove the bottom of the retorts, and let the contents fall out. After closing the bottom again, fill up anew from the top and close and burn again without disturbing the fire. About ten per cent loss is experienced in the reburning, if I have been correctly informed.

It should be borne in mind that good plantation molasses is requisite for making good golden or refined syrup. I have the honor to submit herewith three samples of syrup made by E. S. Ricker Esq., of Clermont county, Ohio. First, made last year (1857,) and refined. Second, made in 1858, and also refined. Third, made in 1858, and not refined. It will be perceived, by the first, that no deterioration takes place from age; it yet retaining its mellow and agreeable taste. The two latter show the very marked improvement in manufacture of '58 over '57, as well as the improvement by refining. I also accompany these with a sample boiled to a crystalizable consistency, which I have taken from the refinery, without affording time for thorough crystalization. Mr. R. has enough of this, as he assures me, for 1000 pounds of sugar. I beg to point your particular attention to the specimens of the manufacture of '58 refined, as it is a fair sample of a crop, consisting of 22 barrels made by Mr. E. S. Ricker and boiled in open cast iron pans, which entire lot was lately sold in this city by Mr. R. at sixty cents per gallon the round lot. The sample and sale at those figures demonstrate, it seems to me, very clearly, that good syrup may be made from Northern grown cane, and when well made it can compete on equal terms with Southern or Cuban syrup in our markets.

I also lay before you three samples of spirits. No. 1, is pure Sorgho brandy, 14 months old, distilled by Messrs. Ingraham & Son of this city. The process consisted in first fermenting the juice and then running twice in copper stills. No. 2, is the same mixed with an equal quantity of Catawba brandy. No. 3, is pure, Catawba brandy. It will be observed that the mixture is no less delicate and pleasing, so far as aroma and delicacy of flavor are concerned, than the pure Catawba. It is the opinion of wine merchants here that the Sorgho rum or brandy will prove of much value for admixture with other liquors. I was induced to make this comparison by observing a paragraph in Mons. Huc's very excellent work, "Travels in Tartary, Thibet and China;" on page 97. In speaking of the productions of Eastern Tartary or Manchooria, (a province extending from about 41 deg. to 52 or 53 deg. N. lat.,) he observes, "they have also abundant harvests of Millet of Rao-Leang or Indian corn, (*Holcus Sorghum*,) from which they distill excellent brandy."

Some rather imperfect experiments I have made satisfy me that a palatable beverage may be made in the following manner: Express the cane juice prior to frosts, and reduce with water to about

5 deg. B. To 5 gallons of this add one pint of the juice of either currants, goose or cranberries, or even of the common rhubarb plant, and half pint of yeast. Set this in a room warmed to summer heat, uncovered, until well fermented, then pour it off carefully from the lees or sediment. Suspend in the centre of the vessel containing this, a bunch of isinglass, until the remaining sediment is fully precipitated, then again decant the bottle. Lay away in a cool cellar six or eight months and you have passable wine.

In conclusion, I deduce the following summary:

1st. A crop of cane, the juice of which shall mark 10 deg. B., may be relied on generally from good dry soils, either upland or bottom; but heavy rank and wet grounds are not favorable to saccharine development.

2nd. Both quantity and quality justify the continued culture of the cane in latitude even as high as 45 deg., if not 50 deg.

3d. There should be system in the management throughout, and the greatest possible simplicity of machinery consistent with efficiency.

4th. Get everything ready as early in the season as possible, then prosecute your work vigorously to completion, whenever you have made a commencement.

5th. Sugar boiling is a trade and experience your best teacher; study carefully the experiments of others, and exercise your judgment.

6th. Thin syrup is liable to ferment, which is not the case with thick.

7th. Alkalies are preservative, but do not possess great advantage in clarifying.

8th. Frosts, succeeded by warm weather, prove injurious to the cane. Precaution would therefore suggest that it be previously cut.

9th. Rapid boiling and thorough clarification are cardinal irtues.

10th. The immature upper portion of the stem are best rejected, and only the lower part should be made use of.

11th. Stir the syrup in the cooler after having made your "strike."

12th. *Acquire sufficient skill to produce superior syrup and sugar will make itself.*

ON THE CULTURE OF RICE IN ILLINOIS.

By John Russell, of Bluffdale, Greene County, Illinois.

There is no single product of the soil that sustains so much of human life as *rice*. It forms wholly or in part the food of more than two-thirds of the human race, for it is made the staple article of sustenance in the densely populated regions of the eastern hemisphere, included within the tropics, and the southern portion of the temperate zone. In China, with its three hundred millions of inhabitants, if in any province of the empire the rice crop is materially injured by inundation or by long continued drought, a famine in that district ensues, and thousands perish.

Rice is somewhat extensively cultivated in Europe, especially on the islands of the Mediterranean and in the countries that border upon its shores. It was early introduced from Madagascar into the West Indies, and from thence into the United States, where it has long formed a respectable item in the exports of our country.

It will readily be conceded that a cereal so widely cultivated, and which performs so important a part in giving food to man, must, undeniably, possess properties that eminently recommend it to so general use.

In the first place, rice forms one of the most healthful diets known. It contains a much larger amount of nutriment in a given quantity than any other cereal. A handful of rice, which needs no preparation but simply that of boiling, affords the Hindoo and the Chinese a sufficiency of wholesome food for twenty-four hours. Another property, hardly less important, is that the plant is so easily raised, adapting itself to a great diversity of soil, and, like Indian corn, to a wide range of climate.

In the Carolinas, and other southern States, where rice is grown for exportation, it is usually cultivated in low swamps, bordering upon a river or a lagoon, where a dike is constructed, at a heavy expense, with sluice-ways, to enable the planter, at certain seasons, to lay the surface of his rice fields under water. Hence, many who have little or no acquaintance with the culture, beyond that single fact, have drawn the conclusion that it can be raised only in

swamps which admit of irrigation. This is an error. There are numerous varieties of rice, many of which yield a bountiful crop on the uplands. The Chinese, to whom every foot of land is valuable, raise it on the terraces built along the sides of the mountains. Father Martin, a Jesuit missionary, who labored for a long series of years in one of the most southern provinces of Hindostan, informs us* that in his district more than thirty different varieties are cultivated by the natives. He speaks of one kind that requires nine months from the time of planting to mature for harvesting; another seven months; another five, and one that requires but *three.* This was in a region far inland, lying nearly central between the Ghauts and the coast of Coromandel—a thirsty country, where the inhabitants, during the greater portion of the year, have no water, for agricultural or any other purposes, except that which is collected during the short "season of rains," in artificial reservoirs. And yet, the country was densely populated. Among all classes rice was the most prominent, and, with the poor, almost the sole article of food, for no other production is capable of sustaining so many inhabitants to the square mile.

This account, given by Father Martin, is cited to prove that even in India there is raised a variety of rice that would find abundant time to reach maturity in the most northern county of Illinois. The impression that our climate is too cold for the culture of rice, is disproved by the fact that it has been raised by many farmers, in the southern counties of this State, in quantities sufficient for the use of their families, almost from the first settlement of that section. In the census of 1840, rice was included among the agricultural productions of Illinois. We find, by the census of 1850, that a considerable quantity was raised in Buchanan county, Missouri, which is in the same latitude as Sangamon county, Illinois.

A small patch was successfully cultivated, the present year, by a friend of mine, in Bluffdale. The seed was obtained from D. B. Tuthill, Esq., of Walridge, Pulaski county, a gentleman whose enterprise and moral worth do honor to our State. No more seed was procured than was contained in a letter of an ounce weight; for it was the object of my friend merely to test its successful growth in this county, the present year, and raise seed for the next. The letter containing the rice failed to reach him till about two weeks later than it should have been planted, yet it ripened in good season, and yielded abundantly. I saw it frequently, in every stage of its growth, and can attest that the experiment was decidedly successfully.

With proper attention, any farmer in Illinois can raise enough for the use of his own family, and that, too, with a trifling amount of labor. Like every other plant of the Natural Order of Graminæ, rice has a strong propensity to adapt itself to the climate where it is attempted to be raised. It is probable that in the most northern

*"Lettres Edifiantes et Curieuses." Tome VII.

counties of this State but a small proportion of the first year's planting would fully ripen, if the seed came from a latitute far south. But by planting that which matured, it would adapt itself to the season. Every farmer is familiar with the fact that Indian corn, of whatever variety, soon becomes acclimated. The small dwarf corn, raised in the most northerly regions of the Canadas, in three years attains, at the south, the height of the ordinary corn of that region, and requires as long a season to arrive at maturity. As much corn to the acre, on an average, is raised in North America, in the latitude of Quebec, as at the equator. At the north, nature economizes the short season allowed her, by expending as little as possible of her energies upon a useless redundancy of *stalk*, but devotes them to perfecting the *grain*. The same law is manifest in the production of rice. As we advance toward a higher latitude, the height of the culm diminishes without sensibly decreasing the yield of grain. There is a limit beyond which rice, like all other vegetable productions, cannot be successfully grown; yet, it is believed that if due attention is paid, that limit will not be found in Illinois. A little more than a century ago, when a Frenchman brought to Louisiana, from St. Domingo, a few cuttings of the sugar cane, and planted them in his garden, over which the commercial street of Tchapitoulas, New Orleans, now runs, it was regarded as a vegetable curiosity, without the slightest anticipation that a day *would* or *ever could* arrive when the cane of the tropics would be naturalized in Louisiana, and sugar become the great staple production of that region. This plant, for many years, has gradually, by the law of acclimation, been extending its culture farther and farther north, and it is difficult to say at what point nature would have pronounced her fiat: "*Thus far shalt thou go, and no farther*," had not the *sorgho suere* stepped into the arena and presented our farmers with a valuable substitute.

It is not pretended that even upland rice does not require a good share of moisture. This is also true of all plants of the same natural order. Hardly a summer passes in Illinois in which there are not times when, from the long absence of rain, the corn crop would be sensibly benefited by artificial irrigation. The saying that "*rice is fond of wet feet*," is applicable, in a greater or less degree, to every variety of the plant. But, no farm in this State can be so destitute of water that a few square rods of rice cannot, with a trifling amount of labor, be irrigated, when irrigation is needful.

The quantity of seed required is comparatively small, for numerous stalks spread out from a single grain, and it should be planted in drills, at a sufficient distance from each other, to permit the use of a hoe.

The average yield to the acre, in the United States, ascertained by actual inquiry, in taking the last census, is much greater than the average yield of wheat. From the sixteenth of an acre, if cultivated with the care that may easily be bestowed upon so small a

piece of ground, it is believed that from fifty to eighty pounds of rough rice can safely be expected. This computation is a very moderate one, and below the average yield. It should be planted as early in the spring as the season will admit of sowing tobacco seed, which, in this State, is usually in March, or early in April.

It may be offered, as an objection to its cultivation, that rice, like barley, is covered with a hard *glume* or hull, of which it must be divested before it can be used for human food, and that the machine by which the large rice planters perform the operation of *hulling* is costly. The rice mill has, indeed, done for that crop what Whitney's invention has done for that of cotton. In 1840, there were eighty million pounds of rice raised in the United States. In 1850, only ten years later, that crop had risen to two hundred and fifteen millions of pounds. At the latter date, there were no less than one hundred and seventy-five thousand acres cultivated, and five hundred and fifty-one planters, who raised each twenty thousand pounds or upwards. But, long before the rice mill was invented, rice was raised in the United States for exportation. It was cleaned of the glume by pounding it, by hand, in large, wooden mortars, similar to those which our early settlers employed to beat their corn into hominy. No one can have traveled extensively in our southern and southwestern States without having frequently noticed particles of rice cultivated solely for the use of the family. It is raised for the same purpose in not a few of the counties of Kentucky. It is believed that among these small cultivators less than one in a hundred have their rice hulled otherwise than by the wooden mortar. That primitive mode has been, from time immemorial, and still is, used in all the rice growing regions of the east. For a small crop the mortar is amply sufficient. We should vote the owner of one of our immense wheat fields decidedly behind the age who should attempt to harvest his crop with a sickle instead of a reaper. But if his field consisted only of half an acre, we should think the sickle or the cradle by far the most convenient instrument.

Probably, the method by which, according to Father Bourzes, rice in India is divested of its hull, might be adopted here with great advantage. The rough rice, before pounding, is thrown into water moderately hot, and suffered to remain there for a few minutes, when it is taken out and dried in the sun. It is then freed from the glume with a very little pounding, and leaves the grains of rice, he says, far less broken than in Europe, where this process of macerating it, previous to pounding, is not practiced.

Some will ask—*cui bono*—what is the use of "being at the trouble" of raising rice, when we have in Illinois, wheat, corn and other products in abundance for food? If, to avoid effort, mental and physical, is the great *desideratum* of life, the questioner stops far too short. He should extend his inquiry and ask, why it would not be better for us, like the roving Tartar, to live upon horse flesh and mare's milk? Horses can be raised with as little labor on the

vast plains of the far west as on the steppes of Tartary. Why not, like him, when we need a new suit of clothes, call in the aid of a tailor that works in horse hide, who, in a few minutes, would fit to the whole person a single garment, freshly taken from the back of a three year old colt? Such a suit could be obtained with very little "trouble," would last for years, do away with the labor now required of us to earn broadcloth and linen and save our families the trouble of making soap.

The subject of food is intimately connected with that of civilization and the onward progress of the human race. The famine in Ireland, caused by the continued disease of the potato, has proved a rich blessing to that country. Since the Irish peasant could no longer be fed upon a single and coarse article of food, both he and Ireland herself have made greater progress than they did in the whole century preceding.

In the annual address, delivered at the fair of the State Agricultural Society, in 1855, the orator of the day, with the hand of a master, drew a picture of early times in the west, when many a farmer was content to cultivate but ten acres, raising upon that single field, year after year, an ill-tended crop of corn. The food of his family consisted of two articles only—"*bacon and corn-dodgers.*"

That race, at least in Illinois, has long since passed away. But should a specimen of that breathing fossil yet linger upon this side of the *Styx*, you will find him opposed to any improvement in the *fodder* of his household. He firmly believes that Railroads, Agricultural Societies and Free Schools are ruining our Sucker State, every acre of which has already been trebled in value by those institutions.

DOMESTIC FOWLS—THEIR REARING AND MANAGEMENT.

By C. N. Bement, of Poughkeepsie, New York.

It is an old and trite axiom that, "the thing worth doing at all, is worth doing *well*," and this may well be applied to the keeping of fowls and other small stock, which too often, if kept at all, are a pest, nuisance and positive loss to the farmer, when they could, by a little attention, be made a source of much pleasure, comfort and profit. It is our object, in this little essay, to attempt to show how this desirable object may be attained. The writer has had many years personal experience in these matters, and has always considered that the comfort, both *real* and *apparent*, of a country residence, depends much upon the order, variety and taste displayed around the dwelling, exhibiting an index to discover the character of its inmates.

Most farmers think turkeys, ducks, geese and chickens are things entirely beneath their notice; but we are satisfied, from long practice, it may, under proper management, be made as profitable, according to the amount of capital invested, as any other branch of farming business. We have known the occupants of beautiful farms obliged to send to a neighbor for a poultry dinner, and to the store for all the eggs necessary in the culinary department. Of this fact we have had sufficient proof in our visits, where we have found a sufficiency of poultry could not be raised for the use of the family, notwithstanding large numbers were kept; but no attention was paid to their convenience or accommodation. It is true, the poultry come more particularly to the care of the good house wife; but the farmer should furnish means to obtain the best sort, convenient sheds, or other places to keep them in, and not too rigidly guard the corn crib. A few additional ears of corn will pay compound interest, and the leisure hour in providing them comfort will be far from misspent.

But, though most farmers keep fowls and raise their own eggs, there are many who have not learned the difference there is in the richness and flavor of eggs produced by fat and well fed hens and from those birds that have been half starved through our winters.

There will be some difference in size, but far more in the quality. The yelk of one would be large, fine colored and of good consistence, and the albumen or white clear and pure; while the contents of the other will be watery and meagre, as though there were not vitality or substance enough in the parent fowl to properly carry out and complete the work which nature had sketched. In order, therefore, to have good eggs, the fowls should be well fed, and also provided, during the months they are unable to come to the ground, with an abundance of lime, oyster shells and fine gravel, that they may be able to grind and prepare their food for digestion.

The way in which farmers in general, in this country, manage their poultry, is not the best for them or the fowls. They are allowed to go where they please, to lay and sit at any time they may deem expedient; when the hen comes off with her chickens, she is suffered to ramble about, exposing the young brood to cold and wet, which thins them off rapidly; no suitable accommodations are provided for their roosting places, and they are allowed to find a place to roost where they can, probably in some exposed situation in a tree or out-house; no attention is given to feeding them; and, under such circumstances, it is not to be wondered at that few or no eggs are produced, that few or no chickens are raised, or that fowls are sickly or unprofitable.

When, with so little expense to himself, a farmer may have an abundant supply of eggs, and raise one or two hundred chickens, it would seem strange that the poultry business should be so little attended to by the owners of the soil. Where crops are sown immediately around barns, it may be inconvenient to have fowls run at large, but in many cases fifty to one hundred of these birds may be kept, not only without injury, but with benefit. There are generally large quantities of grain scattered in the barn yards and lost unless eaten by fowls; there are myriads of insects, such as flies, bugs, worms, grasshoppers, &c., which require to have their numbers diminished by the cock and his followers.

If the fowls be suffered to roost out in the tree tops, winter and summer, and made to scratch for a living the best way they can, it could scarcely be expected they should prove thrifty and profitable. Vermin and inclement weather would blight expectations; neither are all locations favorable to raising poultry; there are many situations where turkeys cannot be raised at all, and other lands of a heavy, wet nature where chickens will not thrive.

When fowls are confined to a narrow space it requires much pains to supply them with all kinds of food which they collect when running at large, and without care to supply their wants they will not be profitable. When running as they please, they devour many grubs, eat gravel and various kinds of insects, and many other things which we cannot discriminate, though we look on while they select their food.

To render poultry profitable it is essential that great care and

circumspection be exercised, not only in the selection of valuable breeds, but in feeding and rearing the young. If remiss in these points, no profit will result from the enterprise—as a general thing he will, to adopt an old adage, "Have his labor for his pains."

There is a vast difference in fowls, and while some are hardy and profitable, others are weakly, and scarcely pay their way under the most favorable circumstances, and the best management possible to bestow. It is always a judicious plan for the farmer to keep a number of fowls of some kind on his premises, as there is always enough waste or refuse grain to feed them; and beside, they are serviceable in protecting the crops, by destroying the numerous insect depredators, which in the spring and summer months prey so voraciously on the youthful and more tender plants.

When one is suitably located, the keeping all kinds of fowls—hens, turkeys, geese and ducks—will be found profitable. It will bring many dollars in the course of the year, and insure a constant and liberal supply of eggs and poultry for domestic use.

In some countries poultry forms a very important branch of rural economy. In warm climates generally it is used abundantly for food, being so readily prepared for the table, while large animals, unless immediately used, would become putrid and spoiled. Roast and boiled chickens, eggs, pancakes, fritters, custards and puddings are no despisable luxuries in a thriving family. Scarcely a meal can be comfortably prepared without the use of eggs; even bread is much improved by beating up a raw egg with the water or milk with which it is mixed, and certainly it adds much to its nutriment, as one egg is said to contain as much as one pound of meat.

POULTRY HOUSE AND YARD.

Many persons commence house keeping, by getting a wife, and then a house. But our advice is, "first procure the cage, then the bird." Previous, therefore, to getting a stock of poultry, provide for them a house. This will be found a most necessary arrangement, as on many occasions it is highly necessary they should be confined, as at planting time, or at some other periods when they are particularly destructive; close confinement in a room or shed would soon make them sick and interrupt their laying, but a house and yard, on the plan we are about to describe, would answer every convenience and be found often very advantageous in securing the eggs of such fowls as had contracted a habit of laying away from the house and boxes and endanger the loss of eggs.

If it is desired to confine fowls to a yard for all or a portion of the time, it will be indispensable to their health and productiveness to provide for them suitable accommodations. These need not be expensive, but the fixtures should be efficient and complete, so as to secure the safety of the fowls. The houses and yards, therefore, must be constructed according to the purposes of the proprietor.

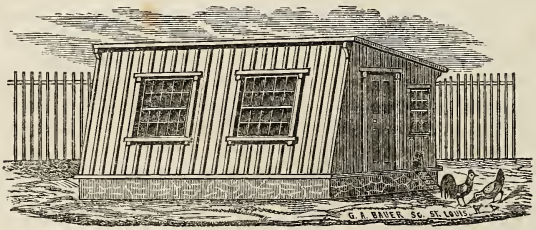
As to fowl houses and other circumstances, minute directions are almost impertinent. The three grand requisites are cleanliness, dryness and warmth. Those who wish for anything on a large scale will find plenty of plans and descriptions in the "American Poulterer's Companion," so that if they choose they may lay out as much money in a hen house as would build a comfortable cottage. But some people have little choice in the matter—they must take or adapt such conveniences as they find around them. The fowls themselves are not very fastidious; but one may be sure that the more we attend to the comforts of our domestic animals the more they will reward our trouble.

Whatever number of fowls may have been selected for keeping, provision must be made for their comfort and safety. Those kept on farms, lead, in many respects, a happy life. They have good and plenty of room, and generally with no lack of food. They wander about the farm yard, the orchard and the lawn, visit the adjoining fields, travel over the pasture, throughr the lanes, troop about the barn, and enjoy total freedom. To the advantage of pure air they usually have that of pure water, and the opportunity of varying their diet, by picking up insects and their larvæ; and a store of pebbles, gravel, old morter, and other other calcareous matter, which they require, is always at their command. So far they lead a comfortable, apparently happy and natural life; but how are they housed at night? In many instances, in a proper and well built poultry house, with perches judiciously arranged, and with boxes lined with straw, for the laying and sitting hens; but often in places utterly unfitted for them. For instance, numerous flocks of fowls will be lodged under the roof of some large, open shed, above the cattle, wagons or carts, which receive abundance of their droppings; others take shelter in the barns, stables, cider mills, pig pens, out-houses, on the waggon, cart, or any other implements which may be stored there, while not a few may be found roosting on the branches of some favorite tree. This want of order cannot be too strongly condemned, as hens having no proper laying places, select such situations as chance may offer them, not unfrequently in obscure places of concealment, so that their eggs are devoured by vermin or are lost. This, to say the least, is a slovenly mode of keeping fowls. It offers a temptation to thieves, and the health of fowls cannot be improved by their being soaked all night long in a drenching rain, or having their feet frozen to the branches. There is no difficulty in accustoming any fowls to regular housing at night.

Those who wish to be successful with fowls, should have a distinct building and yard, with a warm aspect, facing the south or east, as the morning sun is congenial to them in cold weather. The dryest and warmest soils are best adapted to the successful rearing and breeding domestic fowls, especially chickens; and to be attended with the greatest success and least trouble, some expense

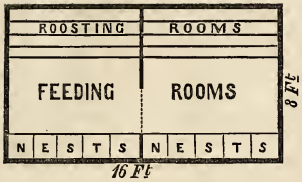
and great precaution will be required. Fowls endure severe cold much better than moisture. To unite all the advantages desirable in a poultry yard, it should be neither wet nor exposed to cold winds. There should, if possible, be running water in the yard, and under cover should be placed ashes and dry sand, where they may indulge in their natural propensity of rolling and basking or bathing themselves. Gravel, broken shells, crushed bone and old lime morter should always be placed within their reach.

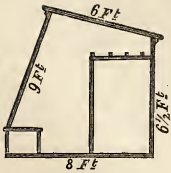
Having settled all preliminaries, we propose now to give the elevation and ground plan of a very cheap and pretty model of a poultry house, which can be made to accommodate from twenty-five to one hundred fowls:



POULTRY HOUSE.

The posts in front should be twelve feet high; the back posts four feet shorter. This will give a good pitch to the roof, and shed rain readily. It may be of shingles, of boards, battened, or what is still better, both for warmth and coolness, thatched with straw. The sides and ends covered with boards running up and down, and the joints covered with battens; but the better plan is to use inch and a quarter plank, tongued and grooved, which will secure more warmth. It will be observed that the top of the front wall inclines backward. This is for the purpose of imparting greater heat, by obtaining more power from the rays of the sun in winter. Deciduous trees should be placed in front, to protect it from the scorching rays of the summer's sun. In the end is a door for entrance, and a small one for the egress and ingress of the fowls. This door should be three feet from the ground, with steps outside and inside for the fowls to pass up and down. If there is danger of the fox, skunk, weasle or rats, remove the outside ladder, and make a platform for the fowls to alight on, by hanging the door with hinges at the bottom, and when let down for a platform, let it rest on a bracket. There should be a small window with slat blinds at each end, for ventilation. The internal arrangement is so clearly exhibited in the annexed plans, that a description or explanation is deemed unnecessary.





Nests.—It is not essential to success that the nests should be on the ground, though we always so construct them for the use of some of our hens, in conformity with the general observation, that hens when left to their own choice usually do so. But whether on the ground or raised somewhat above it, they should be warm and partially secluded.

The hen likes privacy, and if left to follow her own natural instincts, will seek some shrubby thicket, tuft of grass or rank weeds, if out of doors, or in the manger of a shed—in short, almost anywhere, if she can escape the gaze of man or animals. To humor this propensity, we propose to lattice the front of the nest boxes, with small strips of lath, which not only give them *apparent* secrecy, but admit air, so desirable in hot weather. Why we give preference to latticed fronts to close boxes, is by reason of the constant circulation of air going on through the interstices. This has much more to do with the comfort of the hens, and the perspective of "counting the chickens before they are hatched," than many people are aware of. In nine cases out of ten laying and sitting boxes are too *hot*, *close* and *dry*. Draw a comparison, if you please, between them and a stolen, or if you will, more natural nest, in the open air. Which of the two are notorious for producing a numerous family of healthy chickens?

The style and form of the nest boxes must be determined by the size and kind of fowls for which they are designed. If for large Asiatic fowls, the boxes must be made low and easy of access, so that the hens will not be obliged to fly up to get into them. The boxes also should be shallow, so that the hens need not hop down from the rim, as in that case they are liable to break the eggs. Sometimes nests are fixtures built against the wall, not unlike pigeon holes on a large scale. The first or lower tier may be on the ground, and each appartment should be eighteen inches square and two feet high, suitable for the larger sized variety of fowls. The next or second tier may be twelve by thirteen inches, and eighteen inches high. This tier, being six inches narrower, may be set back six inches on the lower one, by which a ledge is formed for the hens to alight when seeking their nests. If more tiers are added, narrow shelves may be placed in front of each box, with a ladder for ascending to each tier. The opening should be zigzag, not over one another. This form of nests will admit of being extended to any length or nnmber of tiers required; the top sloping at an angle of forty-five

degrees to prevent the fowls roosting on it. There is, however, one objection to these tier nests, which we have noticed in our experience. It is this: when a sitting hen has left her nest to procure her food, drink, etc., one of the laying hens would espy the eggs, pop in and deposit her egg. In the meantime the hatching hen would return and discover her nest occupied, and finding it no easy matter to eject the intruder—for possession, with hens, like men, is considered nine points of law—would seek the first nest she could find vacant and settle herself on them very contentedly. The consequence was the other hen, after depositing her egg, would leave the nest, and the eggs would cool and spoil. There is another difficulty. If vermin should make their appearance, as they often do while the hen is sitting, there is no sure way of getting at them or cleaning the nests. To remedy this in regard to the vermin, we would reccommend the nests to be made in the form of shallow drawers in place of the boxes. These may be inserted into the spaces. By this arrangement, if the nests become foul, and require cleansing, they are easily removed and freed from those most anncying pests, hen-lice, when occasion requires.

Having disposed of the house, both external and internal, we will now proceed with the yard. The size of the yard may be made to suit the fancy or convenience of the owner; but, from our experience, the larger the better, not less than one acre, well covered with grass, to every hundred fowls. Here is one great cause of failure in rearing poultry in inclosures. We have often noticed on large farms small, seven by nine pens, without grass or any green thing. Under such circumstances, it is no wonder their fowls would sicken and die.

The yard should, if possible, be of a gravelly or sandy character, and a little sloping, that it may be dry, as moisture is a most destructive enemy of poultry. The yard should be well fenced; close on the north side; also, for three feet all around, and four feet of pickets, which will make it seven feet high. Sheds, to protect the fowls from storms, should be erected against the north or west fence, sloping back or outwardly. If there is a bank or side hill on the north side of the lot, place the house there. To make it warm in winter and cool in summer, excavate the bank suffieient to cover the back wall, which should be of stone eighteen inches thick and laid in mortar. If the bank be not very steep, the bottom may be sunk three or four feet in front. The back wall may be from nine to ten feet high, and the roof may pitch both ways, or shed at the ends, presenting a gable end in front, which may be of glass or not, to suit the notions of the proprietor. If the roof is of shingles, let the spaces between the rafters be lined and filled in with tan, saw dust, or fine charcoal; but a good thatched roof would be preferable. The internal arrangement may be similar to the one heretofore described.

As we have a house, yard and accommodations prepared, we will now attend to our breeding stock. Without allusion to any

particular variety, we will enter upon some general remarks in this department. In choosing stock select young fowls, and, if possible, from such as have been remarkable for good laying and thrift. After one season you will be able to select eggs from your own stock of such desirable qualities; they may be attained by care and time, as well as any peculiarity of plumage you may fancy. Good fowls may be of any color, but to have none but good and handsome ones will require time and attention in selecting; and as they are no more trouble or expense than inferior ones, they are worth picking for. There are some fowls much more destructive than others, always scratching and restless—we have often seen and heard it remarked; those who understand these matters will confirm it. Selecting is a matter of some importance, since the quality of your poultry may be much improved by attention to this subject

First will come their disposition for laying. Some may be found to produce many more eggs in a given time than others. The best step to attain this object is to raise pullets from hens conspicuous for this quality, preferring those of the same shape and color as the hens. For laying properties, the following are noted: Black Spanish, Hamburg, black Poland, and all the family of Bantams. But for all purposes, laying, quality of flesh, hardihood, and good breeders, give me the common Dominique fowl, which may be found in most all yards through the country. The figure below is a fair representation of the cock:

Shape and Size.—There is much more in this than at first appears; for good dressed fowls, killed and prepared for market, will look like most other perfect things—better for seeing more of them. And here the Dorking fowl stands pre-eminent. A long necked, long legged, thin made fowl can scarcely be made fat, and then will not look as well as the plump, square and full breasted

ones with short legs; neither are they so quiet and thrifty. They do not sit so steady, but their long legs are active in the operation of searching out potatos, fresh planted corn, and other seed—habits seldom required or desirable.

Fattening.—Of all modes the best for obtaining flavor and nutriment is a run at large, with abundance of food. On a large farm there will be sufficient food to fatten a great number from the waste and droppings of other stock of food that would otherwise be lost; and here by a little care may produce a handsome sum in cash, and bountifully supply the house with eggs and chickens; and who does not like to see a variety of pretty fowls about a place, enlivening the retirement, and, by their early summons, awakening the drowsy husbandman from his quiet rest to brush with dewy steps the waving field? Who can stand unmoved and see these active, lively creatures, as at the early dawn their doors unclose, rushing headlong forth and gladly clapping their wings and heralding the approaching day to heaven's great concave; then sipping the pearly drops of early dew, look up to heaven, and seem to say: "O man, remember thy Creator!"

Barn-door fowls are generally considered the best, and they usually are so; for they not only live on the best food, but they have the advantage of free fresh air and exercise; and in harvest and threshing time the great abundance makes them extremely fat. The nearest approach to this manner of fattening will be the best. The plan of cooping them up for a week or two for the purpose of giving them extra food, does not improve them. Five or six weeks is necessary to make them fat. The first week or two they pine and lose flesh from the confinement.

Varieties.—The common barn-yard fowl is a native of the east and warm climates. They are domesticated everywhere, and may be found in great variety of color, shape, and size; being a mixture of many varieties, and generally raised without care or selection, there will consequently be many without value, either for eggs or flesh, and no dependence can be placed on their produce, even if good individuals are selected, as it will require a number of generations to insure full blood as to quality, size, color, etc. To obviate many of these disadvantages, the economist will select and carefully continue one or more of the following breeds; still continuing to select even from these the best individuals for breeding stock.

Poland Fowl.—These, like the brave people from which they derive their name, are every way commendable; and we recommend them and place them first in the "chicken fancy." Good layers, very elegant in form, beautiful in plumage, poor and rare sitters, chickens rather delicate—require warm housing—good for the table. They are admirable layers. By many they are mostly called "everlasting layers." Many will lay every day for eight months, and sometimes every other day during the year, except in

moulting time; seldom showing any inclination to sit. Their eggs are large, of a rich flavor, and with thin shells. They are a very domestic, quiet fowl, neither quarrelsome or mischievous, and will fat well, coming to a good size and weight. Their flesh is high colored, but peculiarly rich flavored and juicy. They are hardy, enduring well the extremes of cold and heat, although they are not so thickly covered with feathers and down as some other kinds are.

Spanish Fowls.—The true Spanish fowls are a valuable variety. Their plumage is black, with bluish tints; very large combs, with white flesh or skin round the eyes; dark legs, rather long, and long bodies. They lay the largest of hen's eggs, and are very prolific; no sitters; chickens tolerably hardy, slow at feathering; good for the table, as their flesh is white and delicate. Should be well kept.

Dorking Fowls.—This is a valuable and favorite variety, but the true breed is rather scarce. It takes its name from a town in Surry, (England,) where the bird is supposed to have originated, and where they still are reared in great perfection and plenty. This is the sort usually made into capons. They are of good, rather large size, long bodied, full breasted; the flesh is good flavored, juicy, and of a yellow or ivory shade; somewhat delicate in constitution, and seems to thrive best on warm soils; eggs large and well flavored, but not abundant; fair mothers; chickens not so easy to rear as some other breed; splendid table fowl, large and plump in body; wants liberal keep and warm housing. They fat well; are handsome alive, and show delicate, white and advantageous when plucked and dressed for market.

Game Fowl.—The game breed is rather small, of delicate and genteel shape, elegant and compact in appearance, hardy in constitution, excellent caterers for themselves, good layers of delicious eggs; excellent mothers and rearers of chickens. The flesh white, and superior in richness and flavor to all others. Their eggs are small, fine shaped, and delicate, with dark or yellowish shells. But these are not fowls for the farm. They are extremely quarrelsome—even the chickens will fight till they are stone blind, before they are fairly feathered. They lay very early in the season and thus become useful as a cross with other varieties.

Bolton Grey or Silver Penciled Hamburg Fowl, is a nice, plump, hardy bird, rather small in size, excellent layers, and of fine plumage. They are generally esteemed first rate egg producers, poor sitters, of course poor mothers, but can hardly fail to be a satisfactory and desirable every day fowl.

Cochin China Fowl.—Hardy, abundant and early layers of excellent eggs, of a dark cinnamon or a dark buff color, rather small in proportion to the size of the fowl, large and plump in body, require liberal keep and warm housing. This will apply to the Chittagongs, Brahmas, etc. Valuable to cross on the common fowls

of the country, giving them more size, and improving their laying qualities.

Shanghae Fowl.—There is a great deal of difference in the stock of this breed. Some are coarse, loose jointed, crane-like concerns, with legs long enough to step over a pretty high fence. These are a disgrace to the race. Some persons who have had fowls of this description, have, after a short trial, discarded them, and think justly there is a great deal of "humbug" in the "hue and cry" about fancy poultry. Those who are procuring Shanghae fowls to breed upon, should be sure to choose those that are short-legged, free from feathers, if possible, and plump in form, from stock that breeds uniform in size, shape and plumage.

The Asiatic fowls, in character, are quiet, peaceable, good layers, careful steady sitters, good mothers, and what is very important, the chicks are hardy, easy to raise, and less liable to be affected by disease than those of many other breeds, particularly the Spanish, Polands, and Hamburgs.

Bantam Fowl.—The bantam is a splendidly beautiful variety. They are of every color, some mottled with many colors, but the most common are white. They are elegantly formed; flesh delicate and a good substitute for young chickens when the latter cannot be obtained. The common are feather-legged; but the best and most approved sort are clean-legged, very small, weighing from twelve to sixteen ounces, yet producing an egg very near the size of a common hen, very rich and fine flavored. They are good sitters, good nurses, very tame and domestic, and will outlay all other varieties, the Hamburg perhaps alone excepted. They eat but little, and will lay and thrive cooped up in any small yard where there is a little sun and dry ashes. These are the fowls for city and village yards and gardens.

Their appearance is very grotesque, the cock strutting with a very upright and proud gait, and will attack not only the largest of his species, but even a turkey cock. We have known these little things prosper and lay all through the winter in a village cellar; light of course being indispensable. They are least of all destructive to a garden, and as we have before observed, will produce, for a *given quantity of food*, by far the greatest number of eggs.

Hatching.—When the determination of the hen to sit becomes fixed, there is no need to indulge the first faint indications immediately. Let her have the nest she has selected well cleaned and filled with fresh straw. The number of eggs to be given to her will depend upon the season, and upon their and her own size. The best plan is not to be too greedy. The number of chickens hatched is often in an inverse proportion to the number of eggs set. We have known only five chicks to be obtained from fifteen eggs. Hens will in general cover from eleven to thirteen eggs of their own production.

Three weeks is the period of incubation of the common hen. Sometimes when she does not sit close for the first day or two, or in early spring, it will be some hours longer; more rarely in this climate, where the hen is assiduous and the weather is hot, the time will be a trifle shorter. But what are we to do with the hatched chicks, is a natural question. Let them remain quiet with their mother from twelve to twenty-four hours, to gain strength from the warmth of the body of their mother. Then place them with their mother in a roomy, boarded coop in a sheltered position on a dry sunny spot, is the best position for them during the first month. Keep them from cold and storms, which are death to them. As to food, let them have dry crumbs of bread and a hard boiled egg, chopped fine, for the first few days; then *coarse* ground corn, which we have found to agree well with them. Fine Indian meal made into a paste and fed raw is not good for them. Many chicks and young turkeys have suffered from the effects of that kind of food; but when boiled will not injure them. Sloppy matters are better avoided till the little things are old enough to eat a few grains of barley or wheat, which they are enabled to do before it is usually suspected; afterward they do no harm. Meat and insect dirt are almost necessary. Raw vegetables chopped fine are grateful to them. But whatever be the bill of fare, the meals must be given at short intervals—as much as they can swallow, and as often as they will eat.

The period at which they are left to shift for themselves depends upon the disposition of the hen. Some will continue their attention to their chicks till they are nearly full grown; others will cast them off much earlier. In the latter case, it may be as well to keep an eye upon them for a few days, till they have established themselves as independent members of the fowl community; for chickens in this half grown state are at the most critical period of their lives. They are now much more liable to disease than when they were apparently tender little weaklings crowded under their mothers' wings. It is just before arriving at this point of growth, that artificially hatched chickens are so sure to fail, whatever be the substitute for the mother's care. Mere incubation has long ago been performed artificially with success in various ways. The mere hatching deserves little credit, however ingeniously it is done. Any one at any time of the year can effectually complete that process by means of a spirit lamp and a sand bath in a warm room. But to rear them is the difficulty that has not yet been surmounted in this country.

AGRICULTURE.—THE ANGLO-SAXON.

By John Davis, of Macon County, Illinois.

When I pronounce the word Anglo-Saxon, I do not merely mean the Yankee of New England or the Tuckahoe of Virginia—not merely the dweller in the mighty west, either north or south of the compromise line—but I go far away back, in imagination, and include all those millions and many more, in various portions of the earth, who have their origin in that hardy knot of sea-roving Saxons that landed on the island of Britain, when that mother country was a turbulent uncultivated waste, like our Utah. When I use the word Anglo-Saxon, I mean to include all the descendants, wherever found, in all parts of the globe, of that hardy race of men who aided the ancient Britons in driving from their borders the Picts and Scotts, and then in turn put down the Britons themselves and established the Heptarchy. I mean the descendants of those Saxons who, under their great Alfred, expelled the Danes, and who rose triumphant from that abject feudal slavery imposed by William the Conqueror and his Norman barons, after the unfortunate battle of Hastings. I mean that same unconquerable race of iron hearts and iron muscles which settled, in the seventeenth century, the eastern coast of our own country, from Plymouth Rock to Jamestown; and which, in the nineteenth century, conquered the dominion of the seas at the memorable battle of Trafalgar. I mean that same race who finally broke the spirit of the last great Latin lion on the bloody field of Waterloo. I mean that race of hardy pioneers who have carried the Anglo-Saxon religion, language and civilization into the jungles of India, the deserts of Australia, the wilds of Asia and Africa, and into the frigid regions of Hudson's Bay.

But more especially do I mean our branch of that great, overshadowing family which has not only succeeded in conquering the usual enemies of Anglo-Saxon advancement, such as wild forests and deserts, filled with savage beasts and more savage men, but which, even while an infant, repelled the attacks of its elder brother. The sacred names of Bunker Hill, King's Mountain,

Yorktown and New Orleans will suffice to suggest my meaning. Were I a politician, wishing to inspire your patriotism, I might here enumerate scores of places, both on land and on sea, as well as on the great lakes, where the American eagle has snatched unfading laurels from the brow of the old gruff lion of England. The fact is, that majestic bull dog, Britain, hardly believed in the purity of our blood over here in America; and it has taken some ten or twelve years of hard blows to establish the fact of our legitimacy in his old thick skull.

But the thing is done. We glory in our great and good ancestors who did it, and will build monuments on our renowned battle fields. We may have slight brushes and seafights hereafter, but no desolating wars among the grand branches of this mighty race. Our *destiny* will not permit it.

I have now come to that part of my subject where my hearers may justly inquire: "*What is the destiny of the Anglo-Saxon*, as distinct from the destiny of the Assyrian, the Egyptian, the Jew, the Greek or the Roman? I reply, it is not *merely to people the earth*, as in the primeval times, or to build hanging gardens or construct huge pyramids, for the gratification of proud queens and haughty Pharoahs, as in the days of Babylon and Egypt. It is not merely the perfection and embellishment of the art of war, as seen in the Macedonian phalanx, and painted and sculptured and sung in the fine arts and poetry of ancient Greece.

Nor is our mission in the great drama of history the mere experimenting in civil government and the establishment of a correct system of jurisprudence. This was sufficiently done under the Kings, Consuls and Emperors of Rome, and in the pandects, codes and institutes of Justinian.

Nor yet is it our destiny, as a race, to seek out a system of pure and undefiled religion, as this is complete, also, in the literature of the Hebrews, and has been embodied and set forth in the life and teachings of the Incarnate Son of God.

There is, then, but one object left for a race of people who would be original, and not mere copyists of others to accomplish. The Anglo-Saxon is not and never can be a race of mere imitators. No other people on earth are more bolt-upright and unyielding in their originality than this. It is and must ever be the chief aim and true "destiny of the Anglo-Saxon" to cultivate the arts pertaining to peace, and to develop his peculiar civilization.

The Anglo-Saxon cannot now *conquer the world* as his grand design and *final end*, because he has already conquered it, as far as his interests at present demand, as a mere incident to a much greater purpose. Point out to me, if you can, a sea, gulf, bay, or strait, in any remote corner of the earth, where Anglo Saxon commerce does not ride in safety, where Anglo-Saxon navies are not supreme, and where the English language is not spoken with impunity, and heard with respect. Go search China and Japan, the coasts of Africa and Madagascar, visit the South Sea Islands, the

East and West Indies, the frozen regions of both the poles, and every where the Anglo-Saxon has his rights of discovery or of commerce, if not those of occupation or protection. The real Anglo-Saxon mode of conquering the world is *not* to establish a mighty monarch at London or Washington, who shall, at will, send his Satraps, Governors and Viceroys to plunder the subdued and enslaved provinces of one vast world-wide empire, as in the days of Cyrus or the Cæsars. Conquest, by force of arms, as practiced by Xerxes, Alexander, Charlemagne and Napoleon, is not the way for modern civilization to spread its supremacy.

The Anglo-Saxon extends his dominions by treaties of trade, and binds his provinces down with chains of commerce. If his merchantmen can exact the tribute, without the expense of government, he is willing, in most cases, to leave the "regulation of their domestic institutions" to each respective nation. If at any time his ships can enjoy the rights of resort, in case of distress, and his fisherman can cast the net and spear the whale unmolested, he is willing to "neither vote slavery in or out of the territory," leaving the natives thereof "perfectly free," subject only to maritime and international law, as dictated and expounded by Britain and America. To send the Christian missionary, to exchange the products of agriculture and the commodities of commerce, with satisfaction to his theology and his pocket, is all the Anglo-Saxon need ask of outside barbarians. The rest may be left to time.

Next to the religion and life of Jesus Christ, there is in this world no greater peace maker and tie of brotherhood than *mutual interest*, as developed in the arts and agriculture, and extended and strengthened by commerce. And it is to the influence of this interest, continually enhanced by modern civilization, in its workings among the nations, that we are to look, in a great degree, for that "good time coming"—that great MILLENNIAL ERA—so often predicted and sung, by seers and sages, and prophets and poets, in all ages and among all nations.

Kings and Emperors, Sultans, Czars and Presidents will be unable to wage extensive and expensive wars, when their subjects and citizens refuse to risk the destruction of their trade, their ships, their mechanical and agricultural interests and the derangement of their means of instantaneous international communication, in the shape of continental and submarine telegraphs.

All wars, in that good time coming, will be defensive. And if all wars become merely defensive, there can be none at all, for want of invaders. Even the discoveries and inventions of the military art alone, tend more to peace than to war, as they generally enhance the means of defense more than they do those of attack. But international peace, which is one of the first great blessings brought about by "Anglo-Saxon destiny," and which is now considerably enjoyed, is by no means the ultimatum of our attainments.

That grand chain of discoveries, by which man has been induced to dam the rippling stream, and cause its pent up waters to saw and grind, and spin and weave at his bidding; which induced him to cage the winds of heaven in sheets of canvass, and make them drive his ships of trade and war across the mighty deep; and, further, when tired of this uncertain motion, enabled him to use in its stead a team of fire and water, with which he plows the bosoms of rivers and lakes, and finally, that of old ocean himself, in spite of tides and currents, and winds and waves, and at a speed and with a load unequaled before in the history of the world; which has caused him to harness on land the locomotive, that draws a whole train of cars, each of which is more ponderous than the triumphal cars of ancient Rome, and at a rate of motion utterly astonishing in the world of facts, and scarce surpassed by the fairy adventures of the "Arabian Nights." That same unbroken chain of discovery and scientific progress which has accomplished all this, and has enabled man to grasp the red lightnings of heaven and use them at will as errand boys, traversing alike the ocean bed and mountain top, at a speed absolutely instantaneous, and which has accomplished equal wonders in almost every other department of human industry, to the very great advancement of man's prosperity and happiness, cannot and will not stop here.

Already we see, dimly glimmering in the hazy dawn of progress, a new prodigy of STEAM! Half our horses and oxen, now used for teams, are to give place to a FARMER'S LOCOMOTIVE, whose wheels are tall enough and feet broad enough to walk on common roads, like other people. With this new farm team, we are to commence a new era of agriculture. It is to immediately double or treble the amount of plowed land and crops of Illinois, because it is to turn up the soil to two or three times the present depth of plowing. It is to haul our logs, saw our wood, thresh our grain, and to do a world of other chores which we now look on as great labors; and all this at a trifling expense while at work. It eats nothing when idle! It is as easily and cheaply wintered as hogs are when packed away in the pork barrel.

But, hark! I see still beyond, almost in the murky clouds of the unknown; yet distinctly I see its bulk. It gradually, with uncertain and diffident steps, seems to advance to a brighter spot. Yes, it is more distinct. Steam, or some more powerful agent, is its motive power. Its parts are of iron and the best of steel. Even more powerful materials may be necessary. It is designed to sit on the plains of Illinois, and to perform the labors of tall mountains, or to do that which is now done in many parts of the world by dense forests, or by the ascending spray of the ocean, when strong waves beat on steep, rocky coasts. It is to *tap the clouds*, and cause them to shed their rains on the parched earth in dry seasons, and, by the gradual "bleeding of the skies," prevent the accumulation of moisture in the upper atmosphere, which, when it does escape, produces our wet seasons.

The philosophy of the thing is this: It is a well established fact in science, that clouds are formed by the evaporation of moisture from the surface of the earth, by the heat of the sun and the absorbent powers of a dry atmosphere. Chemistry shows us, that in the process of evaporation, electricity is developed, which is supposed to accompany this latent moisture into the higher regions of the air, where, by reason of a lower temperature, it is partially condensed and forms visible clouds. This said electricity, being all of one kind in a single cloud, (either positive or negative,) causes the particles of mist to repel each other to such an extent, that they cannot unite and form drops, and hence must float indefinitely above the stratum of non-conducting dry air below, until the said cloud comes in contact with some tall earthly object, capable of conveying a portion of its electricity to the earth. The bystander will then see the flash, hear the "thunder" and receive a shower of newly formed rain drops. Tall mountains, the moisture arising from very dense and tall forests, and the spray and fogs arising from the steep abrupt coasts of turbulent seas and oceans, are sufficiently good conductors to cause frequent showers in their localities, when visited by floating clouds. Now, as there are no tall conductors like these on very large, very level and very naked continents, like that of Central Africa, for example, we should expect no rain at all. And the boundless, ever parched sands of the great Sahara sustains our premises. In very large, quite level and rather thinly timbered districts, like the vast Mississippi Valley, we should expect rain indeed, but in a very different manner from that in localities bordering on mountain ranges. As a matter of course, our low conductors could draw off very little electricity, and cause very little rain, until the accumulating moisture in the higher atmosphere became very great, and should by this means float very low. During this time we must have a drought. But the contact once effected, the discharges of rain induced, if it be in the season of our hot suns, the resultant evaporation along our rivers and connected cliffs and bodies of timber, at once gives us tall conductors, and we may expect a *wet season* until the heavens are discharged.

This is the theory; you all know the facts. The machine I speak of is to sit in appropriate localities, and to induce showers of rain by casting continuous jets of water into the passing clouds.

It is the destiny of man not only to *predict*, but even to *control* the fall of rain from the clouds, before we reach the culmination of scientific progress. It appears, that even now we have but to build the machinery. Nature has performed the preliminary experiments, on every craggy coast and along every mountain range. She has made known her laws at the clearing and cultivation of every heavily timbered country, from the cutting of the Black Forest in Germany, and the stripping the banks of the Tiber, to the burning, and cutting, and sawing of our own western woods, along the valleys and tributaries of the Ohio and the Wabash.

Where tall conductors are numerous, the annual moisture is more equal, and withering droughts are unknown.

In the great millennial era of labor it will be no more wonderful or uncommon to cultivate and drain our lands by steam, or to irrigate them, at will, from the floating reservoirs of the skies, than it now is to plow the bosom of the Atlantic with Leviathan steamships, or to use its bed for an international highway for the transmission of intelligence.

In this great whirl of "Anglo-Saxon destiny," however, there are other achievements more necessary, at the present moment, than the discovery and invention of new machinery. Engineers say that farmers already have more machinery than, as a body, they are capable of using. They tell us that the reaper and the mower would have been produced several years sooner than it was, if the common class of farmers had possessed the requisite intelligence to operate them to advantage. I can only reply, by saying I fear there is much truth in the statement. I know very well that the first Atkins' reaper which appeared in the Long Creek neighborhood, was very nearly discarded and sent back to town, until set agoing by a practical carpenter.

The great want, then, of the present day, is the diffusion of practical intelligence among the masses of the industrial classes; not only that they may be able to properly use their present advantages, but that they may go on, in an accelerated degree, to possess themselves of farther advantages now unpossessed and unthought of. Farmers and farmers' wives, need the ability, also, to uncover much useful knowledge and practical skill already possessed by individuals, by communications to the public press.

Furthermore, we are surrounded by predacious animals, which continually diminish, damage or destroy the products of our labor.

In most places we have defeated the bear, the raccoon, the opposum, the mink, and the wolf, but as to the rat and the mouse, nothing is yet decided, except that these pests still levy and collect from the boasted "Free and Independent United States of America," a very heavy annual tribute.

Farmers, merchants and manufacturers should have more knowledge in the conduct of this war. Our industrial generals should be better educated, and our soldiers better drilled, if our armies would be more successful. Our motto should be as of old, "millions for defence, not a cent for tribute." But we have other enemies, which we have often met, but seldom been able to encounter—enemies which have, time and again, driven us from the field with chagrin and heavy loss; which have reduced many families and sections of our country to distress and want. Enemies which have visited our dear State of Illinois, and our own county of Macon the present season, committing much havoc, and laying waste many fields.

I refer to the chinch bug, the army worm, the hessian fly, the bark lice and borers that destroy our orchards and groves, the po-

tato rot, and the tree blight, together with those fungus excrescences, that create the rust, and smut, and ergot of all, or nearly all the crops we cultivate. There are in the insect and microscopic world greater enemies to the destiny of our race than have ever yet been defeated by the arms of any people. They are so minute, that we seldom perceive their existence till their deeds are done. Surely this is the "pestilence that walketh in darkness," more to be dreaded than the cholera or the yellow fever, because we have no skill to encounter such subtile foes. Let but the wheat crop fail, and our merchants become brankrupt, and the people lack bread. Let but the multitudes of Paris set up the cry for bread, as thronging thousands of infuriated men and savage women, surge and resurge from Paris to Versailles, and from Versailles to the Tuilleries, and who shall guide the new "French Revolution," or check its mad career, until all Europe is again deluged in blood, and the trade and commerce of all the world is deranged by "orders in council," "Milan and Berlin decrees," and "embargo acts?" The peace, the plenty, and the prosperity of our country, and of the civilized world, has more to fear from the chinch bug, the hessian fly, and the rust and smut in our crops, than from all the swords and guns, and diplomacy of the Czar and the infidel.

Fellow citizens, we should not patiently submit to all this! We must build industrial universities, hold industrial fairs, write and read industrial papers and books, discuss industrial topics, and practice industrial skill, till our generals of peace, and yeomen of labor, shall be equal in arms to these pigmy foes of ours. Until our armies shall conquer in the orchard and the grainfields, as they have heretofore on many a hard fought battle field.

Already some progress has been made. Farmers' College in Ohio, defeats the smut in wheat by the application of brine and lime to the seed. Some of our neighbors have conquered the army worm, and themselves, both at once, by turning the hogs into the crops. But who shall contend against the chinch bug and the rust? Against the potato rot, and the blight and yellows in fruit trees?

The time has come for men to travel "to and fro" for the increase of knowledge, that we may have an increased power over these potent enemies of our race. Knowledge is the only reliable source of power, and those who will not exert themselves to gain the one, must be content to live, or *to die*, without the other. In many states they have even now, Farmers' Colleges, and Industrial Universities, where students are taught useful knowledge and skill, instead of being kept cracking problems without kernels, and climbing peeled classic poles for mere mental discipline.

We have a *Normal University* in our own State, but it is young and needs perfecting. It must be greatly endowed, and its buildings, fixtures and list of studies much extended.

Let me here give you my idea of an Industrial University. A proper Industrial University possesses facilities for instructing pu-

pils in all useful knowledge, comprehending the sciences and literature necessarily useful in agriculture, horticulture, the mechanics and fine arts, trade and commerce, in all their legitimate branches, together with those underlying and forming the rudiments of Medicine, Law and Theology.

I know, in this statement, I am counted a little hetrodox by our ultra industrial men. Nevertheless, I cannot refrain from counting the "three professions" as legitimate branches of human industry, and deem their members justly entitled to a place in our ranks, as opposed to the army of idleness. It is no less *work* to compound and administer drugs, to fill deeds and conduct courts, to write sermons and teach morals, to weigh sugar and measure calico, to change money and to arrange accounts, to prepare resolutions and attend the interests of the State, to compose editorials and arrange matter, to govern bad boys, and "teach the young idea how to shoot," than it is to plow corn, hammer iron, shove the plain, work the press, furl a sail, or dig coal. All are useful, all *honorable*, all are *industry*, and all and each should have their proper place in the great *Industrial University*. The good "Old Doctor" up north, replied to my arguments in the Chicago convention, 1852, by stating that physicians are "necessary evils," whose calling will be useless in that "good time coming," and hence should not be considered as belonging to the legitimate branches of industry. I cannot see the truth of this statement. So long as we have bodies they must be cared for and kept in health. This cannot be done without the requisite knowledge and industry. If in that pristine state, when man and the world were just from the hands of God, and pronounced *good*, it was possible for Adam, by eating, perhaps an apple, to effect a fall that ruined his race for many centuries, it is surely not impossible that his descendants will occasionally derange a stomach, or mar a limb, by similar means, even in that delightful era we so hopefully anticipate. So long, then, as we are physical beings, we will need medical and surgical knowledge in the hands of skillful men. So long as we have lands and property, we must have deeds and titles, and society must have laws and rules of decorum and conduct, sustained by learned and good jurists and statesmen. And the moral nature of man must ever be developed by faithful teachers.

That "good time coming" can only be ushered in by useful labor, and retained, when once we enjoy it, by constant vigilance and a laudable industry. We cannot afford then to divide our ranks, or to lop off branches at any time, much less now, when we are beset on every side by an antagonistic party of *idleness* and *crime*.

The great party of idleness is found in high spirits, in the saloons and at the gaming table, at the race course and the shooting match. Its ranks are swelled by the fox hunters and mere pleasure seekers, the hunters of sinecures, and the lookers on everywhere; and by the false, the lazy, and the mere hangers on of every trade and profession of life.

This opposing party, though a large one, can well be dispensed with in that "good time coming," and should have no advantages offered to its callings in our industrial universities. The pampered son of wealth and the dandy spendthrift should enjoy no advantages over the industrious student, of moderate means and steady habits. Honors should always accompany merit, and should generally be awarded and bestowed at the great GALA DAYS—the examinations and fairs of the institution—in the presence of applauding thousands.

Another great want of our country is a better understanding between merchants and farmers. It seems that we are on the eve of a *peaceable war*, if not a "civil" one. "Farmers' Clubs," are being oganized for the protection of their interests against the invasion of village merchants. It is designed to send agents to the cities, such as St. Louis and Chicago, who are to receive and sell the farmer's produce, as fast as shipped to them, and in turn buy for the farmer his "necessaries" and make returns. Should this practice become general, what will sustain our inland towns and smaller cities? Where shall we find a ready sale for five pounds of butter and ten dozen eggs? For our blackberries, green cucumbers, melons, roasting ears, and other articles, which are too small in quantity or perishable in quality, to bear far transportation and slow sales? For I suppose that even in the large cities the market does *sometimes* get dull.

Why should not these "Farmers' Clubs" send their agents to the eastern cities at once, where produce is higher and goods cheaper? If it is of no consequence to destroy our rising home markets.

The evil these farmers wish to obviate is this, when a certain crop comes into market, there is, often, no standard, by which to fix prices, except one erected by a set of sharpers, whose business is to *speculate*. Too often it is found that, after the farmer has parted with his produce, the price rapidly rises, and the speculator becomes suddenly rich.

I cannot see that country merchants are to blame for this, as most of them seldom buy produce, except as merely incidental, in collecting debts, etc. Nor can I see any good reason for levying war upon them, by concentrating our trade in the distant cities. I fear, also that farmers will endure many losses by awkward shipments, for want of practice. Their agents, too, *might* wink at matters unprofitable to their employers, after long residence among the buyers and far away from the farmers.

A better plan for obviating the difficulty in question, in my opinion, would be the employment of a sufficient number of men, whose business should be to travel constantly in the growing seasons, to ascertain, as exactly as possible, the amount of farm products in the country, both on the farms and in the markets. Let them be required to make monthly reports, respecting all farm products, including the growing as well as the grown crops, accompanied with remarks concerning foreign markets, as occasion

may require. Let these reports be promptly published, and sent to all farmers and merchants, who may choose to pay their cost and receive their benefits.

In this way farmers and merchants would have a correct standard of prices, and outside traders, who merely speculate during a portion of the year, and live on the spoils the remainder, would be driven from the field. This plan will increase the business of village merchants and tend to the permanent growth of inland towns and cities. The risks of the merchant and miller, with so reliable a standard of prices, would be diminished, and they would be content with smaller margins in their transactions. This is but a crude outline of my plan, hastily sketched, yet, perhaps, it will be understood.

Of one thing, at all events, I am sure, that it is much more promotive of the industrial interests of the country, to encourage harmony among the classes whose interests are mutual, than to stir up strife and contention among the members of the same great army of labor and progress.

It might, perhaps, be well also for merchants to discard the use of *private marks* on articles of merchandize, as a means of industrial conciliation. I speak of this because the advocates of "farmer's clubs" say that *secrecy* is evidence of *fraud*, and allege that private marks on goods are designed as a means of overreaching customers. I do not thus view the matter, yet, I consider an open and frank method of conducting business much preferable, when individual justice will admit of it.

A further great necessity of the industrial classes is a *popular miscellaneous literature*, adapted to the development and growth of proper industrial tastes, and habits of thought on useful subjects.

Industrial men, and especially farmers, are much averse to reading books devoted to their pursuits. The reason is obvious. Nearly all books extant in America, on the subjects of agriculture, horticulture and their connected arts and sciences, have been, until recently, written in other countries, and for a very different set of men from the farmers of America. The spade cultivation of a few acres in England or France, where labor is cheap and produce high, or the tending of horses and cattle in the stables and yards of aristocratic noblemen, with a superfluity of grooms, servants and lackeys, are very different affairs from the operations required on the grain and stock farms of Illinois. It is not at all wonderful that books on old country farming should prove uninteresting or disgusting to the cultivators of America. Nor are the works written on the agriculture of the older states very well calculated to wipe out the chronic repugnance to book farming in the new ones.

We need a *western* industrial literature! Suppose we had a book entitled, "The Life and Labors of Jacob Strawn, the great Illinois Farmer, and Napoleonic Cattle Man." Suppose in that work there is narrated how, in Pennsylvania, he chopped and cleared his land, almost day and night, by the sunlight and by the burning brush piled up by his industrious wife; how, in Ohio, he

repeated the process on rather a larger scale, until, besides teams and movables, he had cash to purchase three hundred acres of Illinois prairie; how, in Illinois, he had become the neatest, as well as the richest and most extensive farmer and cattle man in all the west. Suppose you that such a book as this, filled with useful history, interspersed with personal adventures and anecdotes, and containing a goodly store of practical farm knowledge, fitted for home use, would go unread among industrial men? Here is a field for gifted writers that will *pay* in many ways and on all hands.

Biography is the cream of history, and industrial rivalry is the spirit and destiny of the age, and that author who can properly ride and guide the current of the rising literature of labor, will do a good work for his race, and land himself in a famous haven.

All have heard of James N. Brown, the successful farmer of Island Grove, and a biographical sketch, telling us how he succeeded, under what difficulties or advantages he labored, how he overcame them and how he used them, would be of more *immediate* practical value to the masses of western farmers than all the "Agricultural Chemistries," "Practical Agricultures" and "Stable Books," of England, Scotland and France, put together.

While thus justifying western farmers and cultivators in neglecting book knowledge, however, I must say to them that we have many useful books published in our own country, and, that the agricultural papers of the west are fast becoming almost exactly what we want. * * * * * * * *

I shall call your attention to but one more subject before I close. The Hon. Mr. Morrill, of Maine, introduced into the House of Representatives, at Washington, last winter, a "land bill," for the endowment of Industrial Universities in each of the several States and Territories of the Union. The bill passed the House, but was delayed in the Senate. Perhaps a more just or a more important measure was never pending the decision of the representatives of a free people. None that contemplated weightier interests or more salutary and wide spread benefits. It is both the index and harbinger of superior civilization and industrial progress. It is to open wide the gates of knowledge to the farmer and mechanic. Colleges are to be established for the investigation and promulgation of useful scientific truths, which shall be available to the humblest operative on the farm, in the shop, or aboard the vessel. Such a bill should enlist the sympathies, good wishes, and votes of every lover of his race. No man should go to Congress, hereafter, who is not in favor of "Morrill's Land Bill," as being the greatest desideratum of his country at the present time! Who is not a promoter of "Anglo-Saxon destiny," by favoring the endowment of Industrial Universities in all the States?

Fellow citizens, we live in a fortunate era. The destiny of our race is fast being accomplished. "The enmity of national warfare has passed away, and the rivalry of universal labor and skill mounts the throne, seizes, the crown of honor and the sceptre of power,

and from its resplendent palaces of art, gleaming like the visions of the apocalypse, in the new risen light of that good day coming, gives the law to the most civilized realms and tribes on earth.

"There is a good time coming. Simultaneous voices from the field, the shop, the anvil, the loom—from the heights above and the depths beneath—all herald its approach, and betoken its character, its destiny and its triumphs.

"I see it in the congregated free and independent citizens and yeomen around me, assembled here, under nature's great crystal palace, which, a few years since, overarched only the wigwam and the war dance, to take each other by the hand, to exhibit the products of their toil and their skill, to plight their mutual faith and fire their hearts anew, by a reiteration, even from this new land, of the peals of that anthem that already swells and resounds over earth and sea;—dandyism, sham, and humbug crucified;—labor, merit, worth, exalted, crowned;—peace on earth, good will to man, and glory to God in the highest."

AGRICULTURE, AS CONNECTED WITH SCHOOLS, COLLEGES AND PUBLIC INSTITUTIONS.

By Alex. M. Gow, President of the Dixon Institute.

It has been well remarked, that the chief object of our schools should be, not so much to acquire a definite amount of positive knowledge as to learn the art of learning, and acquire the disposition and the taste to do so. Failing to perceive this truth in education, many are prone to press upon the pupils of our schools a long and varied programme of positive studies, to be mastered absolutely within the few years of school life. The effort seems to be, to crowd facts—stubborn facts—into the mind, until the "passive recipient" may be called a "walking encyclopedia of useless knowledge," knowing a "little of everything and but little of anything." The study of books too often excludes the cultivation of those faculties which make us acquainted with things about us, so that many of the so-called educated pass from the schools seeing, hearing and knowing nothing, by observation, of the grand, glorious world around. A Ben. Franklin and a Hugh Miller read their earliest and best lessons from the leaves of nature, unfolded from the trees or bound in solid folios among the rocky shelves. They gathered many facts, as the result of their thinking, while scores gather facts without thinking at all. They are the best educated who study men and things, as well as books, and thus gain, by their own observation and reflection, what otherwise they would never acquire. The observing, reflecting mind, engaged in any occupation, is more successful than that which unhesitatingly follows a dull routine and a venerable precedent. In no profession is there so wide a field for observation, experiment and discovery as the field of the farmer. Great as our discoveries have been in agricultural science—admirable as are our improvements in the machinery of husbandry—enthusiastic as many are who devote themselves to the plow and the pruning knife, it must not be supposed that we witness even "the beginning of the end." Greater achievements are to be accomplished—greater wonders wrought; and the mass of agriculturists are yet to learn that they are mem-

bers of a scientific profession. If so, how are these things to be accomplished? Our children will have to answer this question.

The American mind and energy are admirably delineated in the description of that character of characters, the "Yankee boy:"

> "Thus, by his genius and his jack-knife driven,
> Ere long he'll solve you any problem given;
> Make any gim-crack—musical or mute—
> A plow, a coach, an organ or a flute;
> Make anything, in short, for sea or shore,
> From a child's rattle to a seventy-four.
> *Make it,* said I? *Aye; when he undertakes it,*
> *He'll make the thing, and the machine that makes it!"*

Our prairie corn will, probably, be surer than our crop of geniuses, but we may have strong, vigorous, intelligent men and women, if we cultivate them. What share, then, shall our schools have in this development of our youth, in order to develop the great agricultural interests of our State?

The successful agriculturist is he who possesses, among other things, an *ardent love for the beautiful in nature.* He must be a man of *close, accurate observation;* must be a man of *practical neatness and order,* in all his operations; *punctual and regular* in all his duties and *gentle and humane* in his feelings and actions. Can these qualities, so desirable in the education of every man, and so essential to the agriculturist, be imparted in our schools?

Every child may be taught, or, rather, be directed and encouraged to teach itself, to see, hear, feel, and thus know the world around it, and to love it for the curious, the beautiful and the true which it contains. To this end, the school house and its surroundings should be arranged with special reference to neatness and taste. The esthetic element of our nature is capable of the highest development, affording the purest pleasure and the cheapest gratification. The perfection of artis but the imitation of nature's works, and he is the true artist who seeks beauty, harmony and grace at the original sources. The poetry of the soul should receive its earliest impulses from the primary school.

"Every one should plant a tree," said one who knew, not only for the material gain produced by its growth, but, also, the moral effects of such a labor. Who has planted and nurtured a tree that has not himself improved by the association? It is a new object of love, and our sympathies in being grow with its growth and strengthen with its increasing vigor. When can we form such friendships with the world of beauty as when the faculties are expanding and our love seeking new objects for its earnest embrace? Where shall that expansion take place—that real education—better than at school? Let the teacher plant a tree and kind memories will cling to him in many young hearts through the influence of its association. Let the pupil plant a tree. It is an epoch in his life—a starting point of his usefulness, to which he will revert with pleasure long after he has ceased to enjoy its shade. Trees, flowers and shrubs should be an inseparable incident of school yard

beauty. The contemplation of these in the impressible hours of childhood must be beneficial; for

> "Some souls lose all things but the love of beauty,
> And by that love they are redeemable."

Habits of close observation are essential to the agriculturist. Earth, air and sky present curious and wonderful phenomena to the accurate observer. The fall of an apple, the swinging of a chandelier, the sore hands of a milk-maid, gave celebrity to the names of Newton, Gallileo and Jenner, and contributed to the world's science invaluable truths. Little things, to observing and reflecting minds, often lead the way to grand discoveries.

To the naturalist, the familiar forms of vegetation, of animal life and of inorganized matter are known, and his quick eye detects new forms and features whenever they are met. He traces the relations of things and his conclusions are the results of mature deliberation and sober judgment. Such a man is always willing to be a learner, and does not hesitate to contribute his share of knowledge to the common stock. Such, to a great extent, should every agriculturist be. But how direct such observations at school?

Every school can have a magnifying glass and a microscope. Every boy and girl can learn to use them in discovering the myriad forms of beauty and fitness, found, where, to ignorant uncultivated minds, they would never be supposed to exist. A bee's sting, a snake's fang, a spider's web, an insect's eye, a sprig of moss, a human hair are a few of the ten thousand objects that fill us with wonder and admiration. If such means are afforded for acquiring knowledge, children will need no stimulus to avail themselves of it. The food, habits and modes of reproduction of the various insect pests may thus be brought under inspection, and experiments be made for their destruction or prevention. In this direction there is great opportunity for investigation. Who shall tell us the cause and cure of the potato rot? Many experiments have been made are now making for this end. Some have arrived at conclusions, but the diversity of opinion yet, on these subjects, and shows that the investigations and experiments must not be relinquished, as the object is not generally supposed to be attained. The chinch bug, the weevil, the fly, the tree borers, grasshoppers and locusts should be familiar acquaintances in the school room. The interest attaching to these forms of insect life, at times so destructive to the labors and hopes of the husbandman, would make them subjects of observation, and thus demonstrate the advantage of "agriculture as connected with schools."

Another means of inciting the powers of observation in children is the formation of a school cabinet of curious and interesting things, by the contributions of the pupils themselves. Such a collection might not be of very great value intrinsically, but its chief excellence would be in the inducement it would offer for increased zeal in the observation of things which otherwise might escape their

notice. Collections of minerals, fossils and shells might be made. Bees, bugs, butterflies, and other varieties of insects, with reptiles of different kinds, could easily be secured and arranged. A simple collection of flowers or the arrangement of leaves according to size, shape and formation, would add much to the benefit of the whole. A little vial of chloroform would be sufficient to capture and kill a multitude of insects and reptiles scientifically, which doubtless would be much more agreeable to them than if taken and preserved the old way.

Neatness and order constitute two of the prominent peculiarities of the model farm, and the farm itself, in these particulars, is but the embodiment of the model farmer's cultivated mind. The teacher can impart these qualities by the systematic arrangement of everything in his domain. He should "have a place for everything," and be very careful to "have everything in its place." Cleanliness and tidiness should be exhibited in every apartment and department in and about. In this way, also, can agriculture find a valuable auxiliary in its connection with the schools.

Habits of punctuality and regularity should distinguish the agriculturist in an especial manner. "Time and tide wait for no man," and, failing to learn the value of this sentiment, many a man has lost his crop and his credit by his neglect to "make hay during sunshine." The duties of the farm, the garden and the orchard are chiefly of the kind that demand constant and regular attention. Plowing, sowing and reaping, planting, pruning and budding must be done, each in its season. To take advantage of the seasons in order to facilitate agricultural operations, requires some meteorological knowledge. To acquire this, time, systematic observation and reflection are necessary. As punctuality and regularity are essential in the proper management of a school, perhaps agriculture may derive something valuable from the connection in this respect.

If each school could be furnished with a thermometer, barometer and a vane, to say nothing of a more extended assortment of instruments, the habit of punctual and regular observation and registration might be acquired which, aside from the knowledge obtained by forming a meteorological table, would be invaluable. Habits thus acquired would never be lost, for the tastes thus formed would be a constant stimulus for the acquisition of new food for mental digestion.

Habits of observation cultivate *gentle and humane dispositions.* We are told that a "merciful man is merciful to his beast," and in no class do we see a greater physical, to say nothing of the moral advantage of cultivating a loving disposition towards all living things than among those who till the ground. The agriculturist, especially, should cherish the humane sentiment, for no one has his patience more severely tried than he, and to no one does kindness and forbearance bring so rich a reward; for those who treat their hirelings and their cattle with consideration are more than re-

paid by the additional labor performed, and also in the improved character and appearance of the animals themselves. Domestic animals frequently reflect the character of their masters, and, other things being equal, he is the most successful farmer whose stock is gentle and kind, and is thus easily managed. These, it is true, are not the far-famed "humanities" of the schools; nevertheless the schools may contribute much to inculcate them.

No child will injure that in which he takes pleasure. Do the birds build in the trees in the school house yard? If they do not, they ought to, and a group of curious children should be instructed to observe their instincts, to notice their habits and to love their songs. Love begets confidence—even birds know this; and the sweet influence of such society is worth volumes on benevolence. By cultivating a taste for such companions the perceptive faculties are awakened, and much knowledge is gained. Many of the birds may be studied in this way—their seasons of migration, their haunts, their notes, their food, their nests, their seasons of incubation and the number and character of their young. The American propensity to destroy the feathered tribes for the mere love of killing, must be curbed, or agriculture must pay an exorbitant price for the sport. Nor is this destruction confined to those who furnish our tables. Anything having life is a suitable and desirable "mark" for the murderous aim. Already, in some sections, the cruel, useless and wholesale destruction of insectivorous birds is beginning to be severely felt by the agriculturist, and unless the evil is restrained by the cultivation of better feelings, the equilibrium established by the Creator will be disturbed, and the increase of pestiferous insects and noxious vegetation, indefinitely multiplied, may teach a severe but salutary lesson. Besides the birds there are many animals which, without reason or reflection, are unhesitatingly destroyed. Though occasionally laying a tribute upon the field or the stack yard, they are man's best friends, and should be treated with the consideration their merits demand.

But can children acquire this taste and affection for trees and flowers, beasts and birds at school? Surely they can. We have seen five hundred children and youth pass, several times a day, within reach of a number of bird's nests, built in the shrubbery of the school house yard. Though the subjects of every day's admiration, the birds built, brooded and went their way, "with no one to molest them or make them afraid." Would such have been the case unless each of the five hundred had been imbued with the sentiment of affection towards the confiding little songsters? Again, we have seen a half domesticated gray squirrel live, during a whole winter, in the same school building as above, and the frequent visits paid to the various recitation rooms was evidence of the mutual esteem and confidence established between him and those who generally might be reckoned his most unrelenting foes. Was not that school rendered better by such associations? and would not

the formation of such *habits of thought and action* be invaluable to any one, and particularly the agriculturist?

If, then, the cultivation of the taste for the beautiful, the development of a love of nature's works and the formation of habits of close, accurate observation, of practical neatness and order, of punctuality and regularity, of gentleness and humanity are essential to the agriculturist, and can be acquired as we have suggested, then we may claim that there may be a connection between agriculture and the schools.

But, can agricultural knowledge be acquired in the schools without the formalities of the text book and the recitation? Can we crowd on another branch of book knowledge to the already overburdened, teeming catalogues of our schools? We think not. If fine tastes and correct useful habits of thought and action can be acquired in the schools, with the knowledge incidentally obtained by the observations derived from such acquisition, the schools will have laid a permanent foundation for future studies, and this is all the most sanguine should expect. Our schools are not specifically agricultural, and, therefore, not calculated for the prosecution of agricultural science, further than we have designated.

One or two agricultural papers, introduced into a school, under the circumstances of training we have indicated, would do more towards improving the taste and stimulating the desire for practical knowledge than the most ingenious or elaborate text book. The papers would be read for the love of the subjects they treat of, and children thus taught to prize such current information would not likely be without such companionship when grown to manhood.

Cannot the academies and colleges do something more definite and direct than simply giving their students a love for natural beauty, and stimulating them to gratify the passion thus bestowed? If they do this they do much, and we fear they can do no more. Already the "curriculum" of many of our higher schools contains more subjects of study than can be accomplished properly by even the best of the intellectual racers in their training. Rivalry and false ideas of advancement have led many to suppose that in these latter days of lightning speed and railroad locomotion, there must be a corresponding rapidity in the acquisition of sciences and their applications. No wonder that such ideas should be the subject of satire:

"See Progress fly o'er Education's course!
Not far-famed Derby owns a fleeter horse;
On rare Improvement's "short and easy" road,
How swift her flight to Learning's blest abode!
In other times—'twas many years ago—
The scholar's course was toilsome, rough and slow—
The fair humanities were sought in tears,
And came, the trophy of laborious years.
Now, Learning's shrine each idle youth may seek,
And, spending there a shilling and a week,
(At lightest cost of study, cash and lungs,)
Come back, like *Rumor*, with a hundred tongues!"

'Tis true, in the application of some of the principles of chemistry, something may be done, in the higher schools, to entertain and instruct students concerning the vegetative forces in nature, the constituents of growth, both animal and vegetable, the qualities of soils and perhaps their analysis, the rotation of crops and kindred topics. This may be done, to some extent, and, as far as it goes, may be for the advantage of agricultural interests; but, where there is little or no love for nature and no taste for such pursuits, the abstract facts will be of little value. So, also, with botany. If it be studied to gratify a taste for flowers and to acquire a practical knowledge of the varieties and values of vegetable life, it will be of essential service; if, however, it be conned over as part of the collegiate course, to secure the diploma, but little save a smattering of terms will be the result.

It must not be expected that good taste, quick perception, accurate observation, neatness, punctuality, regularity, gentleness and humanity are indigenous qualities, found in every school room. They are exotics, and it is not every school master that possesses that tact and skill, as a nursery man, to transplant and develop them in situations where they were never grown before. 'Tis trite as it is true, that

"Just as the twig is bent the tree's inclined."

Who, then, shall bend the "twigs" that will indicate the connection of agriculture with the schools.

The teacher, for such a work, must not be a mere school keeper: he must possess these qualities if he would impart them, and, in addition, be intelligent, energetic, enthusiastic and persevering. In short, he must be a professional teacher—one who labors to make his work live in the minds and hearts of his pupils long after he has left the stage of action. Nor is it essential that he should possess a high degree of agricultural education, although the more varied his attainments the more useful he would be. Sympathizing with his pupils and directing their investigations, he would be a learner as well as a teacher. Versatility and tact would accomplish much without text books. A mere school keeper could do nothing with them.

The State Normal University can do much for agriculture, through the instrumentality of her graduating teachers. If they have their attention turned to this mode of governing and disciplining their schools, as we have no doubt they will, they will find it not only immeasurably to their own advantage, but also directly profitable to their schools and the communities in which they are engaged. The recent establishment of the society for advancing the study of natural history and the cabinet, commenced in this institution, are an earnest of the value of the subject in the minds of those who direct its operations, and lead us to hope that much will be done for "agriculture, as connected with schools and colleges.

But the great want, for the dissemination of the principles of agricultural science in all its branches and in all its details, is an Agricultural University. Comparatively few of the thousands engaged in the various departments of terra-culture could reap, directly, the advantage of such a school, but every one who did would go forth as an enthusiastic teacher, who would every where find apt and willing pupils, ready to seize on every new idea which would enhance the value of their land, the productiveness of their soil and the excellence of their stock. Other pens can treat of this subject better than ours.

May we soon witness its consummation!

AGRICULTURAL COLLEGES IN ILLINOIS.

Miss L. A. Pratte, Momence, Kankakee county, Illinois..

Every representative district should have its agricultural college. The principal objects of such an institution should be, firstly, to teach the pupils "those things that they will practice when they become men;" secondly, to procure such a division of time between labor and study, that the student's labor will pay the institution for their board; thirdly, to educate, strengthen, and improve the student's physical, as well as his mental powers.

The merits of the first named object are so universally known and acknowledged, that expositions are not required to substantiate its claims or expediency.

The second, may appear to some novel, and almost chimerical. But "the greater good to the greater number," should be the ruling sentiment.

There are, at present, numerous institutions giving the students their tuitions gratis; but it is not the price of the tuitions alone; it is the enormous price for board that deters our best country students from pursuing a course of studies. In this country, those who are really anxious and desirous of obtaining a thorough education, are not generally able to pay their own board, but can pay their tuition, and would gladly welcome an institution, where just the labor necessary to health, would pay their board.

Some snobbish parents will, of course, ridicule the idea of an institution giving the student his board for his *labor;* but farmers, and sensible parents cannot afford, either financially or morally, to send their boys to our fashionable colleges and boarding schools, where indolent and prodigal habits are formed, saying nothing of the contempt imbibed for labor, farming, and usefulness generally. At an agricultural school, (which is supposed to be free from debt,) the teachers and students should each enjoy the profits of their own labor. The tuitions are the result of the teachers' labor; the produce of the farm is the result of the students' labor.

But has not custom adopted a course directly opposite; paying the teachers and supervision from the profits of the farm, and giv-

ing the students the tuitions, as a generous and ample remuneration for their labor?

The third, and by no means unimportant object, has too long been neglected. Labor, or muscular exercise, is as necessary to health and physical vigor as sunlight to vegetation. Yet those who best know the truthfulness of this statement, often regard it least; for how frequently intelligent parents send their sons, who are used to out-door labor, away, to institutions where they remain in-doors most of the day, leaning over their books, and when they do go out, they go as idle loungers. And what is the result of three or five years such blind defiance to nature's law? The once rosy, robust boys are transformed into narrow-chested, stoop-shouldered, enervated beings, called "finished scholars," (and are they not?) having great minds in pigmy bodies.

But the questions arise, How are these objects to be secured? How can an agricultural college be founded? What supervision is necessary? How can the funds be raised? What amount of land is necessary? What will be the cost of the required buildings? How many pupils can be accommodated? What number of teachers will be required? What studies should be pursued? How should the farm be managed? How many hours, and in what order, shoul l the pupils work?

A few hints will be suggested, which, if strenuously followed, will result in the desired objects.

The grand secret of success, in such an undertaking, is to get the farming public aroused and interested. When once they become conscious of their need, and the utility of such institutions, the necessary funds will be easily and readily obtained.

The opinion that the time and money expended in educating a boy designed for a farmer, were nearly thrown away, has been demonstrated fallacious, both in theory and practice. Doctors, lawyers, ministers, and even merchants, have all schools peculiar to their own business, and has not the farmer something peculiar to his avocation, that can be taught at school? How many farmers are there that know anything, virtually, of the nature of soils and plants? Or, how many have at present a good business education? It is not surprising, that the more genius a farmer's son has the more he looks upon farming as physical drudgery, devoid of mental researches or knowledge.

And, are farmers willing that the professions should gather all the best talents in the country, and leave only the mediocrity on the farms? Or will they wisely establish schools, offering inducements sufficient for the best intellects, thus elevating the standard of agriculture, at least to a level with the professions.

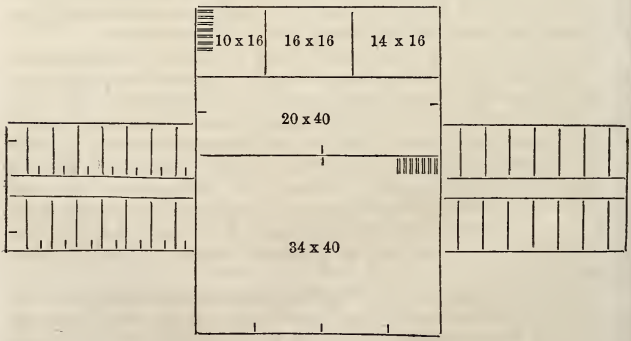
If the Morrill bill, endowing industrial colleges in each state, passes the Senate next session, the farming public will gain a victory worth a thousand conquests.

Illinois has liberally provided for her common schools, nor will she prove less mindful of her agricultural schools; and if asked by

the majority, will give all the aid that can be reasonably expected. But, unless farmers are willing to help themselves, they cannot expect much help from others. Firstly, some enterprising citizen should appoint a meeting at the most accessible place in the district, inviting each town to send three of her best men, as delegates, to this meeting, their business being to devise means for founding the proposed college; and also, to appoint a president, secretary, treasurer, and twenty-four directors. The business of the president and directors should be, firstly, to procure the funds for purchasing the farm, stock, and for buildings and improvements. Secondly, to act as the supervision when the school is established—two directors visiting the school each month, and if they are numbered from one to twenty-four, each knowing his month; one and two visiting the first month, three and four the second, five and six the third, &c., there would be no waiting for one and another, (as at present.)

The funds can be obtained by subscription and donation, or if a tax could be legalized to be levied on the landed property in the district, it would be the most equitable way.

The farm should contain no less than 640 acres. The buildings necessary will cost from $5,000 to $25,000, but those most likely at present to receive the public approval will cost from $5,000 to $6,000, being built in the style of railroad buildings, only two stories high, which, for light material, is high enough in this windy country. The drawing of the ground plan will be given:



THE FRONT.

The main building is 40 by 70, with a right and left wing each 30 by 50. The first floor of the main building contains a chapel 34 by 40, with stairway out, a dining room 20 by 40, a kitchen 16 by 16, a meal room 14 by 16, a pantry 10 by 16, with cellarway out, (the cellar being under the main building.) The second floor has a laboratory 30 by 40, a recitation room 30 by 40, and five sleeping

rooms for the faculty, each 8 by 10. The wings being finished into rooms for the students, on each floor is a hall 6 feet by 50 ; also 16 rooms, 6 by 12, each being furnished with three berths, (similar to those on some steamboats,) three feet wide, six long, and three between floor and ceiling. One fire can be made to warm four rooms, by placing the stove in the wall between two lower rooms, the pipe passing up into a drum placed between two upper rooms. The students furnish their own lights, bedding, and pay for the coal used in their rooms.

The faculty necessary are a principal, naturalist, teacher of French and German, agriculturist, and also an overseer of the domestic work, (the students helping do the work.)

The studies most necessary for a thorough business and agricultural education, are, a most thorough course of mathematics, surveying, leveling, mensuration, perspective drawing, penmanship, book keeping, map drawing, philosophy, chemistry, botany, horticulture, floriculture, animal and vegetable anatomy, geology, mineralogy, meteorology, entomology, zoology, the veterinary art, French, German, and composition.

Students wishing for a scholarship, board free, should be fifteen years old, three months a resident in the district, of good moral character, required to pass a satisfactory examination in reading, spelling, arithmetic and geography ; and to agree to remain at least one year, working three hours each week day, and the same number of hours every fourth Sunday. Those who remain less than one year, should be required to pay $1.00 a week for their board, the whole time they do remain, and work three hours a day, also, excepting in case of sickness, or other reason which the principal shall deem sufficient for their leaving. Students expelled, should pay one dollar a week for their board, for the whole time they have been at the institution.

The year should be divided into only two terms, the first commencing in April and ending in September, with two weeks vacation ; the second beginning in September and ending the next April.

The price of tuition for one single term should be $12; for two or more successive terms, $10 each. The reason for asking more from those who remain less than one year, is obvious. There are numerous students who would rush into such an institution to spend the winter, eating up what the others had raised during the summer, then leaving as soon as spring work commenced. Any student who can afford to remain six months at such an institution, can afford to stay one year or more; and any student that stays a year, the institution can afford to give him his board for his work.

The farm should be under the direct supervision of the agriculturist, being at first divided into lots, cornering as many at the buildings as possible, (the buildings being in the centre of the section,) when all improved. The first quarter section should have 100 acres in pasture, 60 in grass; enough to keep 35 cows, 12 hor-

ses or mules, and 30 or 40 head of young cattle. That number of cows will supply the butter and milk; that number of horses do the work, and the cattle supply the beef; 50 or 100 hogs, a poultry yard, and an apiary, should also be kept. The second quarter should be sown to winter and small grain; the third quarter planted, 120 acres to corn, 30 to potatoes, and ten to sugar cane. The fourth quarter has the buildings, with 5 acres around them planted to locust, black walnut, and ornamental trees; two acres for flower garden, 5 for culinary garden, 28 acres in nursery, 20 in orchard, and the remaining 100 acres can be sown to grain or planted to broom-corn. If planted to broom-corn, which will be the most profitable, the students can make the brooms in the winter, the supervision selling them on a contract, the money serving to pay incidental expenses. The usual rotation of crops will not interfere with quantity. Everything necessary to be consumed in the institution, should be raised on the farm.

At the commencement of the first term, the students should be numbered, commencing with one, two, three, up to the greatest number, say 200, each student knowing his own number. The whole number is divided into divisions, designated by A, B, C, and D. These divisions are subdivided into divisions, corresponding with the days of the week, Monday, Tuesday, &c. The object of this subdivision is to equalize the domestic and field work.

Division A, contains all the members from 1 to 50; B, all from 50 to 100; C, all from 100 to 150; D, all from 150 to 200.

The Monday division of A, contains all the members from 1 to 8; the Tuesday division, all from 8 to 16; the Wednesday division, all from 16 to 24; the Thursday, all from 24 to 32, &c.; the Saturday all from 40 to 50. B, C, and D, are similarly subdivided, the Monday division of B commencing at 50, &c.

The first Sunday, division A does the domestic work, B the second, C the third, and D the fourth. If the farm is near a village, the students are required to attend some church; if not, the students meet in the chapel, the principal reading a sermon or lecture, and in the afternoon meet again in a Bible class, which with a little care, can be made both pleasing and profitable.

Monday morning the first large bell rings at five, (as it does every week day.) All meet in the chapel at half past five for prayers; breakfast at six. At half past six the second large bell rings for division A to go to the fields, the Monday division of A helping do the morning work. At twenty minutes past nine the third bell rings for B to go to the fields in time for A to leave work at half past nine, the Monday subdivision of B going to the kitchen. At twenty minutes past twelve the third bell rings for division C to go to the fields, (C having taken dinner,) in time for B. to leave the fields at half past twelve, the Monday subdivison of C remaining in the house. At twenty minutes past three the fourth bell rings for D to go to the fields in time for C to leave, the Monday division

of D not going to the kitchen till quarter past five; then they assist in doing the evening work.

Tuesday, the same order is observed, excepting the Tuesday subdivisions do the domestic work, and the same all the remaining days, excepting Saturday, when no recitations are heard, all working on the farm in the forenoon, excepting the Saturday subdivisions, which work only the usual three hours each; but all that work on the farm in the forenoon, have the afternoon to themselves, to study or play.

No student should leave his work till another comes to take his place; and any willful delinquency on the part of those coming to the field, should be considered the highest offence.

At first thought, it will appear almost impossible to organize the classes so there will be no clashing; but with calculation on the part of the teachers, they can be readily classified, even if there are but three fourths in the school at one time.

Some of our cynical friends will say, "O dear! it is easy enough to spend money, but the *thing* is to *get* it first. Any writer can tell how things should be managed for profit and convenience, skipping all the tough, dark, matter-of-fact points. They write as if they were in possession of 'Aladdin's lamp,' and it was only necessary just to rub it, to convert a section of wild prairie into the most lovely garden, its magnificent buildings surrounded with the rarest trees, fruits and flowers. But just let them take their pen and paper, and go out on the open prairie, without fence, or a sod turned; six or eight miles from anywhere; then see if the 'bleak winds' don't chill their enthusiastic generosity! See if they don't write a different story! See how they will go to work then to make it the embodiment of their fancied ideal."

Go to work? Why? Just as any sensible person would, to be sure. Firstly, getting all the foreign aid possible from the State, counties, &c.; then, giving each of the directors a subscription paper, they, visiting every farmer, ask for money and labor. Those not wishing to give money, (putting down the amount of labor that they will give,) should be importuned to put down their names as giving a horse, a cow, a yearling, a pig, a swarm of bees, a hen, or a peck of beans—something—anything; all are acceptable, the more the better.

Then, as soon as the buildings are covered, making a general camp meeting bee, inviting all the farmers to come and bring their lunch, teams, axes, plows, and hammers, to fence and break the section. And if enough came, it could all be fenced and broken in less time than a week.

And every farmer that is a man, will either work himself, or hire some one to work in his place. Of course, those miserable, short-sighted beings, best known as "hogs," will neither give money nor work. O no! "Charity begins at home!" What a perversion! But there are enough whole souled public spirits to accomplish the work, without any of their swineships' assistance.

ON SELF EDUCATION.

ADDRESSED TO THE FARMERS AND MECHANICS OF ILLINOIS.

By J. C. Power, of Peoria, Illinois.

In entering upon any undertaking, it becomes necessary to adopt some kind of system by which to proceed. I shall endeavor to show why we should increase our efforts in the acquisition of knowledge, and also to point out some of the modes to be adopted to secure that end—all of which I will aim to illustrate by well known facts and incidents.

Permit me by way of preface to say, that in assuming that there is a lack of knowledge among the laboring men of our State, I must not be understood to advance the idea that this condition of things is peculiar to Illinois; but, on the contrary, it may be truthfully said, that there is not to be found in this or any other country an equal number of inhabitants, occupying the same extent of territory, that could excel them in intellectual acquirements.

With these remarks, I shall proceed. It was long since decreed in the councils of Him whose *wisdom* and *goodness* precludes the idea of error or injustice, that man should "eat his bread in the sweat of his face, until his return to the ground." An intimate knowledge of the history of our race discloses the fact, that where men have most cheerfully submitted to the requirements of this law, and by industry and economy provided for their own wants, they have invariably been the most contented and happy. Few, if any of us, doubt that it was promulgated in infinite wisdom; indeed, with our present inclination to run into intemperance and excess, much as we love ease and self gratification, we cannot conceive of a more deplorable state of society than one in which all our wants, real or imaginary, should be supplied without any care or exertion on our part.

But, notwithstanding all this, men do not love to labor. It is true we often find ourselves engaging in it with elastic step and buoyant spirits; and the man who can with the most cheerful feel-

ings endure the toil that is necessary to accomplish anything really beneficial to himself, or those dependent on him for support, is much more happy, and has greater claims to the respect of his fellow men than he who keeps it ever before his mind that it is a necessity, from which he cannot honorably escape. Remove from the most industrious those incentives that usually prompt us to act; remove from him the hope of reward; let him feel that it is his province to sow, but that another shall reap without his consent, then to toil would be exceedingly irksome—it would cause him to realize the truth of what I have just stated, to-wit: that men do not ove labor. Thus we find the hope of *reward* to be the object of all our exertions, and it becomes necessary that we should know how to direct them most profitably.

The time was when it required but little knowledge to hold a place in the front rank among agriculturists, mechanics, or even what are termed the learned professions. Take for example the science of medicine, the amount of knowledge that would secure its possessor a respectable position in his profession, before the discovery of the circulation of the blood in the human system, would now be held in derision by quacks.

What would the manufacturers of our country think of the man who would commence the business of making steel among them, on so small a scale that his entire works could be completed by two men in a single day, his only means of urging the fire to reduce the ore to metal, being a goat skin, taken from the animal as near whole as possible, by tying up the legs and inserting a nozzle in the orifice at one end, and vavles, so as to be used for a handle, at the other; in this manner forming his bellows; and in place of hammers using wooden mauls, which is the mode now practiced in India and has been for ages?

What would the farmers think of the man who used a piece of wood for a plow share, and would contend that deep plowing was injurious to the soil, with all his other implements and ideas to correspond? Of course, they would now regard him as exceedingly ignorant. But, we must remember, that such men were once up with the times; that knowledge is acquired by learning one thing at a time, and that the men of the present day, most celebrated for their attainments in science or any of the arts of civilized life, are indebted to past ages for the development of ninety-nine truths for every one of their own.

The child begins to study its native language. He learns the name and form of a single letter at a time. He then learns to unite them into words; and, after this, he forms the words into sentences. This he does by the aid of the living teacher—one who has gone over the same road before him. With mankind in general it has been somewhat different. In studying the arts of civilized life they have been forced to be their own teachers. As necessity compelled them to leave the beaten track—new modes were sought out; or, in other words, invention and discovery commenced.

Sometimes that which we call accident, or the unlooked for development of facts, has added to the amount of knowledge. This, however, does not argue that we should wait for truths to be forced upon us in this manner. Indeed, it is safe to assert that important truths have never been developed by accident, except through the agency of men of cultivated intellect.

The man* whose claims to the invention of the art of printing rest upon very respectable authority, (although contested by others) is said to have been walking in the woods, and, for amusement, cut some letters upon the rind of a beech tree, which, for fancy's sake he impressed upon paper. He then prepared one or two lines for his grandchildren, to follow this. Having happily succeeded, he meditated greater things, and finally succeeded in printing whole pages and even books. There is one very important thing to be remembered in connection with this transaction. The same author says that "he was a man of ingenuity and judgment." So we are forced to conclude that had it not been for the former cultivation of his intellect, he would have returned from his walk no wiser than he started. Newton, by his high position as a mathematician, was only prepared, by being driven from the university by the plague, to investigate the cause of an apple falling to the ground, which led to his great discovery of the law of gravitation. If Jennier's mind had not been well cultivated, the remark of the illiterate servant girl might have passed unheeded, and in place of the discovery of a means of modifying the small-pox—thus preventing an immense amount of suffering, and doubtless saving the lives of thousands, vaccination would have been unknown, and that loathsome disease continued to scourge the human family.

I suppose it is unnecessary to multiply instances to prove the necessity of cultivating the mind to fit us for the invention of a new implement, or the discovery of a new principle. The mind should be well stored to enable us properly to use the inventions and discoveries already known. Some may even ask, if we would have every man in the State set out with the determination of producing something new, merely for the sake of attracting attention. I answer, by no means; *but that I would have every man in the State in possession of all existing knowledge, pertaining to his own business.*

The farmer should know what are the constituents in a soil necessary to produce a given crop. He should know how to determine whether his soil contained them or not, and if any were wanting, how to supply them. We do not mean, by this, that every man should be a thorough practical chemist; for it would take years of experience, with the most extensive apparatus and appliances, to enable a chemist to obtain a correct analysis of an ordinary soil, or almost any of nature's vegetable compounds. It is not for the purpose of making a complete analysis that a farmer

*Laureutius Costar, of the city of Haerlem, Holland.

requires chemical knowledge, but that he may know how to apply the knowledge already obtained by professional chemists. There are agricultural dictionaries published, and many works upon agricultural chemistry, that every farmer ought to purchase and use, thereby creating a demand for that kind of literature as the most sure way of getting it simplified, so as to be easily grasped by the common mind. In these works a full analysis is given of nearly all farm products and manures. Now, suppose a farmer wishes to renovate an exhausted soil, which, as a basis for his operations, he knows to have been exhausted by continued crops of corn- He, of course, would refer to the analysis of that plant, and notice the substances that it has for years been abstracting from the soil, and then, by referring to the analysis of the various fertilizing substances, he can easily determine which will most readily and cheaply restore the soil to its former condition.

It may be said that the rich soils of our prairies do not require renovation. This may be true, but the old proverb, "An ounce of preventative is better than a pound of cure," is very applicable here.

The farmer should know the diseases of the various animals he uses, and how to treat them. Is there a man in the State that cannot call to mind the loss of a valuable horse through sheer ignorance of his disease; or if his disease was known, ignorance of a proper remedy? And this often occurs where half or even a fourth of the value of the horse invested in books, and those well studied during leisure hours, would have saved the life of the horse and invested his owner with knowledge to be applied in all future emergencies.

In these days, when so much machinery is used in farming, the farmer should know how to make judicious selections, and how to use them properly. He should, especially, be able to suggest improvements to the mechanic. It was an English farmer that invented, during his leisure hours, the cylindrical carding machine, to take the place of the old hand cards. He was also the inventor of printing or stamping cotton goods, a thing that very greatly increased the value of that article for wearing apparel. The farmer and mechanic both should know something of the nature and composition of the materials they use. A knowledge of chemistry is the only way to acquire this. The old philosophers, or those who first began to investigate the cause of the various changes in the material world, and the composition of the substances, found in nature, believed and taught that there were but four simple elements, and that these were earth, air, fire and water. As knowledge increased, it was ascertained that neither of these were simple elements (an element in this sense is a substance that cannot be chemically divided.) Take one of the ores—of lead, for example —the antimonial sulphuret of lead. It is composed of lead, antimony, sulphur, copper and iron—those five substances can easily be separated; but when separated neither of them can be divided again. Therefore they are all simple elements. It matters not

how often you melt the lead. It is only lead, and so with each of the others. The earth contains all the elements, each of which is an element of itself. The air is composed of two gases or elements, viz: oxygen and nitrogen, in the proportion of eight of the former to twenty-eight of the later. Fire is not an element; it cannot exist alone, but only in consuming some combustible substance. I presume it was never better defined than by Professor Silliman. He says, "Fire is heat and light emanating visibly, perceptibly, and simultaneously from any body; caloric; the unknown cause of the sensation of heat, and of the retrocession of the homogeneous particles of bodies from each other, producing expansion, and thus enlarging all their dimensions; one of the causes of magnetism." Water is not an element, but is composed, when pure, of two elements or gases, viz: oxygen and hydrogen, in the proportion of eighty-eight and nine-tenths of the former to eleven and one-tenth of the latter.

As the science of chemistry advanced, one truth after another was arrived at, developing new substances, so that works upon the subject, published twenty-five or thirty years ago, enumerated about fifty simple elements. The science, however, is still growing. There may be some others yet developed; but so far as is known at present, the whole number of simple elements which compose all that variety of rocks, stones, metals and earths, found under the suface of the globe, as well as all the trees and other vegetable substances which grow on it, and contain properties either for the support or destruction of animal life, and all the men and animals which inhabit, including all kinds of fish and shells that live in the sea, and all the fowls of the air, everything, animate or inanimate, organic or inorganic, amount to about sixty or sixty-one.

This, at first view, to one who has not investigated the subject, may seem to be impossible. That it may be true, however, I think any one will admit, if he will allow me to illustrate it by the various combinations and transpositions of which the letters or simple elements of our language are susceptible. The English language is composed of twenty-six letters. These are variously transposed so as to form about forty thousand primitive words; and with their derivatives added the number is augmented to between seventy and eighty thousand. These words may be and are used, either singly or combined, to give names to everything in nature or that may be found by art. They may be used to express every thought or emotion of the human mind. At a low estimate the language is now spoken by fifty millions of people (about one twentieth of the population of the globe,) and if they all understood it thoroughly it would supply them all with words to express every thought of each one. And what are the means by which this is done? Nothing but these twenty-six letters, characters or simple elements representing sounds? The transposition of the ten figures or characters representing numbers might be used as another illustration. These examples, although they may seem striking, are, no doubt,

as far numerically below the real combinations in nature, as the mind of weak and sinful man is below the infinite JEHOVAH.

As everything in nature is composed of two or more of these elements, the more we can know of them the greater are our chances for success. We must first learn what these substances are—the name, nature and appearance of each one. This we may call the alphabet of nature. We next may learn how two or more of them may combine to form another substance. I have shown in a former part of this article that a single ore of lead contained five of these elements. Of course they are combined naturally to form this one. The same may be done by artificial means, as iron and carbon united, in the proportion of from one hundred and fifty to two hundred of the former to one of the latter, forms steel. This we may call spelling nature. The combination of these and other substances may be traced to the formation of everything we use or of which we have any knowledge. An understanding of this fact we may call reading nature. Then let our aim be to learn the alphabet of nature—to spell it and read it. Men will not have accomplished the work the Supreme Being designed they should until this work is accomplished.

But to prepare us for this part of self education we should begin further back. Self education, however, implies that the person practicing it must have some knowledge to begin with—but how little one might know and be capable of commencing, it is no easy matter to determine.

It is said of Hugh Miller, the celebrated geologist, that, having no books, he commenced his studies by examining the stones in the quarries where he labored. George Stephenson, the father of railroads, commenced his studies by taking the engine in the coal mine, of which he had charge, to pieces, and putting it together again during his leisure hours. It was not until after he had taken upon himself the care of a family that he attended a night school and learned to read. From these humble efforts he continued to acquire knowledge, until he was enabled, as chief engineer, successfully to conduct the building and opening of the Liverpool and Manchester railway—the first that attracted the attention of the world. The following anecdote, related of him, is so good a specimen of answering a fool according to his folly, that I think it would not be out of place here. It should serve as a model for answering all old fogies: When himself, and a few others with whom he was associated, were endeavoring to get permission to construct the above named road, he was called before a committee of parliament to answer questions. Among others, he was asked, in a very pompous style, "Sir, if an engine going at the rate of ten or twelve miles an hour should encounter a strong cow, wouldn't it be awkward?" "It would be very awkward for the *coo*," was his reply.

It has not been the privilege of more than a small fraction of the men of any country to receive a thorough education, and those few have seldom performed much manual labor. The great mass of

those who produce the wealth of the world are usually limited to the common branches; but assuming that each of those I am addressing have received those branches, I will endeavor to point out some of our errors, and the way in which we can improve ourselves. One of the difficulties laboring men encounter almost every time they take up a book or paper to read is with regard to the meaning of words. Our reading is done too much like our work on the farm and in the shop. We undertake to do too much for the time engaged. We pay too little regard to rules. I presume there is not one family in a hundred throughout the State provided with a complete dictionary of the English language. The question arises with regard to the meaning of a word; the only resource is a dictionary so much abridged to make it cheap that it contains but few words, except such as are so much in use that every one may learn their meaning if they will pay the least attention to the language of those who are well educated. Again, if these small dictionaries do contain the word sought for the definition is so much abridged that it often leaves the mind in doubt as to the proper place to use them. This evil is the foundation upon which many others are based. A failure to find a full and correct definition of words leads to a slovenly manner of reading. How often do we find men, who have the native talent and shrewdness for almost any business, upon being called on to read an article from a newspaper or book, do it so bunglingly that it makes a good reader feel unpleasant to hear it? Such pronunciation, words that they have learned by observation to speak properly when conversing, you would think altogether different when they come to speak them in reading. As to punctuation, it is of no use to them. They go over it all like a blind horse over a corduroy road—step so high as to be sure and clear it all. And this evil seems likely to continue, in some places at least, where schools are very well supported. I was in the company of a teacher not long since. In our conversation the importance of punctuation was spoken of. I pointed to a quotation mark and observed that many persons lost the sense of what they read by a failure to understand the use of that. He looked at it with a puzzled expression of countenance, and, to my surprise, said he, "Why, I never noticed that before." Of course we may expect such evils to continue with the young as long as such teachers are employed. These and similar errors go through our whole studies, and with those whose time for attending school is limited to two or three months in the year, for a few years, and then enter upon the active scenes of business and partake of the busy scramble for wealth, it is fixed for life.

Now, what we want is, to begin right. I believe that if every family in the State of Illinois was in possession of a complete dictionary of the Enligh language, (and there is but one) the effect of the common schools would be almost doubled, even if the habits of the parents were fixed so that they cared nothing about it. Let

the children have free access to it; let them know that if a question arises about the meaning of a word, and the proper place to use it, that it can be settled and settled right. It will awaken inquiry and stimulate the mind to the investigation of subjects that could elicit no interest before. For example, a work on chemistry, with no other help than a small dictionary, is almost impenetrable. So with mineralogy. Although these sciences have borrowed so much from other languages, with the aid of Webster's Unabridged Dictionary the student will seldom be at a loss to ascertain their meaning.

Again, if we undertake the study of grammar or arithmetic, we think we must have a teacher to explain and assist at every step, when the fact is, if we would provide ourselves with the means of knowing what words mean, and then *never go beyond the rules laid down in the books without getting a thorough understanding of them*, we can go forward and acquire a vast amount without the aid of any teacher; and this course ought to be pursued by men who have passed the age of life to receive instruction in schools, if for no other reason that they might convince themselves of the importance of liberal education to fit men for good farmers and mechanics. This would be the most sure way of securing the establishment of schools by the State, where both the theory and practice of agriculture and mechanics might be taught upon the most enlightened principles.

This article has already grown to a much greater length than I anticipated in the outset, and I shall be compelled to omit many things that I should like to mention, such as the importance of the study of geography and mineralogy—the former that we may better appreciate the value of the land in which the Supreme Being has seen fit to place us; the climate we enjoy, equidistant from the extremes of heat and cold. Its great importance is that we may the better understand what we read of in other countries by knowing their location. This study a man may pursue almost as well without a teacher as with one, just by observing rules and the meaning of words. In mineralogy, how small a number of mechanics can approximate to the number of metals? Ask that man you first meet, who has worked a score of years in metals, and perhaps acquired a competence for life, how many of them weld, and he may tell you three, or it may be ten; but in either case it is only a guess. This ignorance among laboring men is inexcusable. It would not be tolerated with professional men about their business. This we can study alone to a great extent. Let us do it.

I cannot close without an appeal to the farmers and mechanics of the State in their own behalf.

The Agricultural Society of Illinois has become a fixed fact, and wields a powerful influence. All who have attended the State fairs know that a large majority of the premiums have been paid in silver plate. I should not like to speak of this kind of premiums in such a manner as to cause any one to say, "sour grapes," to me;

but I do think the same money might be invested in such articles as would be of much greater intrinsic value to the recipients of them, without diminishing their importance as a keepsake. For example, a forty dollar pitcher is awarded for the best horse or some mechanical product. It is gratifying to receive it. It is taken home. The facts are engraven upon it. It is laid away carefully. It is taken out occasionally to show to a friend; and so it will pass from one generation to another; but it is dead capital all the time; it produces nothing—it teaches nothing.

Now the officers of the Society are not to blame for this. They are only acting in compliance with universal custom. But what I want to propose is this: that we unite in calling on them to change this custom, and in place of a forty dollar pitcher, let it be a FORTY DOLLAR LIBRARY, (or if it is a hundred dollars, so much the better) and be sure that it contains "Webster's Unabridged Dictionary;" "Ure's Dictionary of Arts, Manufactures and Mining;" the best dictionary on agriculture; the best dictionary of chemistry; the best work on chemistry in general; the best on agricultural chemistry; the best on natural philosophy and mineralogy; on the diseases of domestic animals, &c. Let the smaller premiums be similar—always beginning with Webster, unless the premium is of less value than the book. If we call upon them to do this, I doubt not they will comply. By taking this course we can hasten the time that all good men hope to see—when mere show will not satisfy, but when intellectual and moral worth will be universally respected and admired.

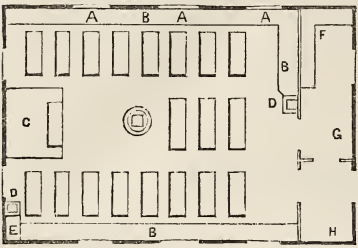
THE DISTRICT SCHOOL HOUSE.

By Alex. M. Gow, of Dixon, Illinois.

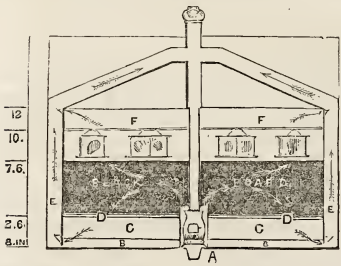
The adaptation of the school house to the purpose of its erection is a more important consideration than many are, at first, apt to imagine, and it is with a view to create a better and more general appreciation of the subject of "school architecture" that the following suggestions are presented.

The excellence of the school building may be ascertained by reference to the modes of lighting, heating, ventilation, economy of space, facilities for instruction, and internal and external appearance. An edifice cannot be said to be suitable for educational purposes that does not combine these adaptations. Health, comfort and convenience may be attained and preserved by teachers and pupils, if proper care be taken in the construction of the building in which they are to spend so large a portion of their time. If these are not the subjects of proper solicitude to those who erect school buildings, the education will be as limited in quantity as its quality is defective. If the Legislature of our State, in view of the great number of school houses to be erected in the sparsely settled districts, would cause the publication and distribution of a work on the subject of "school architecture," embracing plans and specifications suited to the wants of every grade of school, in town and country, it would be an economical arrangement to the State, considered in a pecuniary view, as well as a most important improvement, physically, morally and intellectually, to the great mass of her children. But as the State has not made provision for the distribution of information concerning this most important subject, it will not be considered inappropriate to direct attention to a few of the most important principles in connection with the simplest and cheapest kind of school house which should be erected, and thus do something, if possible, to prevent those serious blunders which are so prevalent, and which do so much to retard the improvement of the "people's schools."

The accompanying plans will indicate some of the principles which should regulate every well arranged school house. The



dimensions are 20x30 feet, in the inside, and is the smallest house that should be built for district school purposes. The school room is 20x25, and 12 feet high to ceiling. The additional room for clothes-racks, library, &c., is 5 feet wide. With these dimensions and with the double seats, as indicated, it will accommodate 40 pupils. More pupils would require a larger house.



Light. — One prominent fault of our school houses generally, is that they have too many windows, and admit too much light, often producing head ache, and causing serious injury to the eyes. To obviate this, light should only be admitted from two sides of the room—in our plan from the west and south sides. Three windows in the south and two in the west will give sufficient light in the darkest days, and too much when the sun shines brightly. To modify the light, green Venitian shutters, with movable slats, should be hung on the inside of the windows. The rays may be regulated by these at pleasure, and no school room is complete without them. The north side, for the sake of external symmetry, may have three false windows on the outside, and on the inside be plain, as indicated in cut No. 2.

Heating.—For such school buildings as the one indicated, there is no safer or more economical method of heating than by the coal or wood stove—sufficiently large to make the room comfortable without being heated to redness. In order to facilitate the heating of the school room, and from false ideas of economy, the ceiling is often no higher than 8 or 9 feet, and the stove pipe is conducted the whole length of the room over the heads of teacher and pupils. This should never be. How much temporary suffering and permanent ill health arise from such mistaken notions of economy cannot be estimated.

Ventilation.—A current of pure air should pass through every part of the school room, to remove the not only offensive but injurious excretions of the lungs, skin, clothes and stove combined. This cannot be effected properly or safely by doors and windows,

but it may be accomplished by making an aperture, 12 inches square, in the centre of the room, under the stove, which should be covered by a movable slide or damper. Connecting with this should be an air tight box or duct, communicating with the outside under the floor, through an opening in the foundation wall. The exposed end of this air duct should be covered by a painted wire screen, to keep out leaves and vermin. A cylinder of tin, with a door in front to put in coal and remove ashes, should be placed around the stove. It should be two or three inches greater in diameter than the stove, that all the fresh air admitted through the duct beneath may pass in contact with the heated stove before it is diffused through the room. At each end of the room there should be an air duct, similar to the one under the floor, 12 or 14 inches square—18 inches would not be too much—which should pass through the ceiling and open into the chimney by sheet iron flues, to prevent danger of fire. Two openings should be made in each duct from 12 to 18 inches square, one at the ceiling, the other at the floor, in which should be placed a door or register, to be open or shut at pleasure. By means of the vacuum produced in the heated chimney, the air will rush in from the room below, and thus establish a current of pure, warm air, rendering the room comfortable and healthful. For summer ventilation, the upper and lower window sash should be hung to open above and below, and the doors should have transom sash hung over them. The windows should be narrow and high, to give symmetry to the building, and also to afford greater room for black boards inside, and for better ventilation.

Faculities for Instruction.—As the north side of the room is a plain wall, it presents an admirable convenience for hanging maps, charts, &c., together with an extended black board. Black boards should also be put in the spaces between the windows on the south and west sides of the room. We have never heard a complaint that there was too much black board surface in a school room. It should be built in the wall, made firm and smooth, and should not be less than 4 feet and had better be six feet wide. In order to place the classes as far as possible from the teacher—an advantage which every teacher who values well developed voices and good elocution will appreciate—a platform, 18 inches wide and 8 inches high, should extend along the walls all around the room, thus enabling them to be better seen, and to work more conveniently at the black boards. The teacher's platform is placed at the west end of the room, between the windows, and should be 8 inches high and 5 or 6 feet wide. Above the platform a wainscot of 20 inches high should be made, to protect the wall, all around the room. On the top of the wainscot should be a trough or groove, 4 inches wide and 2 deep, to hold chalk and wipers. On this the black board should be placed, and above it some slats 4 inches wide should be inserted to hang maps on, and thus save defacing the walls.

Furniture should be of the improved patterns, as they are more convenient, elegant and durable than the old board contrivances. The first cost is greater, but in the end, if properly used, they are the most economical.

To preserve the building and give it the appearance of neatness and comfort, all the inside wood work should be "oak grained" or painted oak brown, without the graining.

As the construction of such a house is not difficult or expensive, it is not necessary to occupy our space by giving a cut for the external elevation. Any good carpenter can furnish all that is necessary for this purpose. The only suggestion is, that the building have wide eaves, to throw the water well from the house. If a portico 6 feet wide were built across the east end, the roof supported by neat pillars, it would add to its appearance and serve as a protection to the house.

ADDITIONS AND ANNOTATIONS TO MR. LAPHAM'S CATALOGUE OF ILLINOIS PLANTS.

By Frederick Brendel, of Peoria, Illinois.

In my account of the geographical distribution of trees and shrubs of Illinois, the reader will find some species which are not named in Mr. Lapham's Catalogue. Here I will add the omitted herbaceous plants. But for the first a few remarks about the northern or southern limits within the state. I do not know the line between North and South Illinois Mr. Lapham had in mind when he distinguished the southern and northern species by the letters S. and N. Anyhow, the following of both grow around Peoria:

Anemone Caroliniana, Walt. Common.
Sida spinosa, L. Introduced. Common.
Abutilon Avicennæ, Gærtn. Introduced. Common.
Polygala Senega, L. Not rare.
Crotalaria sagittalis, L. Rare.
Psoralea floribunda, Nutt. Southward to St. Clair Co.
Desmodium paniculatum, D. C.
Spiræa Aruncus, L.
Gaura biennis, L. Common.
Heracleum lanatum, Michx.
Aralia nudicaulis, L.
Buchnera Americana, L. Rare.
Cynoglossum Morisoni, D. C. Common.
Solanum Carolinense, L. Common.
Gentiana alba, Muhl.
Aristolochia serpentaria, L.
Euphorbia cyathophora, Jacq.
Euphorbia dentata, Michx.
Cyperus ovularis, Torr.

Thaspium barbinode, Nutt. I have seen in Clayton county, Iowa, beyond the north line of Illinois.

Verbena hastata, L., and urticifolia, L., are indigenous North American plants, not introduced, as indicated in Lapham's Catalogue and in Gray's Manual, certainly not from Europe. There are only two European verbena, Verbena supina, L., and Verbena officinalis, L., which is a cosmopolite.

SPECIES, WHICH ARE OMITTED:

Delphinium exaltatum, Ait. Washington co., *fide* Dr. Welsch.
Nasturtium sinuatum, Nutt. Peoria.
Nasturtium sessiliflorum, Nutt. Peoria.
Hypericum adpressum, Bart. St. Clair co.
Hypericum ellipticum, Hook. St. Slair co.
Hypericum dolabriforme, Vent. St. Clair co.
Hypericum nudiflorum, Michx. St. Clair co.
Elodea petiolata, Nutt. St. Clair co. } *fide* Dr. Welsch.
Sagina nodosa, Tenzl. St. Clair co., received from Dr. Welsch. (But the petals shorter than the calyx; perhaps Sagina saxatilis, Wimmer; but the stem not creeping.)
Malva silvestris, L. Introduced.
Floerkea proserpinacoides, Willd. Tazewell co.
Tritolium arvense. Tazewell co. Introduced.
Melilotus alba, Lam. Introduced.
Desmodium ciliare, D. C. St. Clair co.
Desmodium marilandicum, Boot. St. Clair co.
Vivia Americana, Muhl. Peoria.
Lathyrus palustris, L. Peoria.
Baptisia tinctoria, R. Br. St. Clair co., *fide* Dr. Welsch.
Geum album, Gm. St. Clair co.
Gaura filipes, Spach. St. Clair co., *fide* Dr. Welsch.
Mitella diphylla, L. Common.
Archangelicia atropurpurea, Hoffm. Peoria and St. Clair co.
Aethusa cynepium, L. Introduced.
Galium concinnum, Torr. & Gr. Peoria and St. Clair co.
Tedia radiata, Michx. St. Clair co.
Elephantopus Caroliniana, Willd. St. Clair co.
Aster macrophyllus, L. Peoria.
Lobelia Kalmii, L. Tazewell co.
Lysimachia longifolia, Pursh. Woodford co.
Utricularia subulata, L. St. Clair co., *fide* Dr. Welsch.
Linaria vulgaris, Mill. Introduced.
Scutillaria parvula, Michx. Peoria. Common.
Phlox maculata, L. Woodford co. and St. Clair co.
Phlox reptans, Michx. Very common.
Phacelia bipinnatifida, Michx. St. Clair co., *fide* Dr. Welsch.
Obolaria Virginica, L. St. Clair co.
Asclepias phytolaccoides, Pursh. Peoria.
Callitriche verna, L. St. Clair co.
Callitriche autumnalis, L. var linearis. St. Clair co. } *fide* Dr. W.
Calla palustris, L. St. Clair co.
Symplocarpus fœtidus, Salisb. Peoria.
Cypripedium arietinum, R. Br.
Platanthera flava, Gray.
Platanthera lacera, Gra y
Platanthera hyperborea, Linde. } St. Clair co., *fide* Dr. Welsch.
Smilax hispida, Muhl. Peoria.

Trillium nivale, Riddell. Peoria.
Lilium superbum, L. Tazewell co.
Eleocharis intermedia, Schult. } St. Clair Co.
Eleocharis olivacea, Torr. }
Agrostis perennans Tuckerm. Peoria.
Paspalum Frankii, Steud. St. Clair co.
Panicum anceps, Michx. Peoria.
Equisetum limosum, L. Peoria.
Equisetum variegatum, Schleich. Peoria.
Struthiopteris germanica, Willd. Peoria.
Asplenium ebeneum, Ait. St Clair co., *fide* Dr. Welsch.

MOSSES OCCURRING AROUND PEORIA.

Physcomitrium turbinatum, Brid.
Ceratodon purpureus, Brid.
Weissia viridula, Brid.
Drummondia clavellata, Hook.
Leptotrichum pallidum, Hmp.
Barbula unguiculata, Hdwg.
Catharinea angustata, Hook.
Bartramia pomiformis, Hdwg. B crispa.
Mnium cuspidatum, Hdwig.
Bryum cespiticium, L.
Funaria hygrometrica, Hedw.
Timmia megapolitano, Hdwg.
Angstroemia varia, C. Mull.
Pylaisæa intricata, Br. Eur.
Neckera pseudalopecura, C. Mull.
Neckera cladorrhizans, Hedw.
Neckera sedutrix, Hedw.
Climacium Americanum, Brid.
Hypnum rostratum, P. B.
H. orthocladon, P. B.
H. gracile, Br. & Schmp.
H. hispidulum, Brid.
H. serrulatum, Hedw.
H. acuminatum, P. B.
H. adnatum, Hedw.
H. chrysophyllum, Brid.
H. tamariscinum, Hedw.

LIST OF PLANTS OCCURRING IN THE NORTHERN COUNTIES OF THE STATE OF ILLINOIS,

IN ADDITION TO THE CATALOGUE GIVEN BY DR J. A. LAPHAM.

By M. S. Bebb, of Odin, Marion County, Illinois.

Thalectrum divicum, L.
Ranunculus rhomboideus, Goldic.
Actæa spicata—rubra, Gr.
Camelina sativa, Crantz.
Alsine Michauxii, Frenzl. (Arenaria stricta, Michx.)
Ceonothus ovalis, Bigl.
Lupinus perennis, L.
Lathyrus palustris, L.
Geum strictum, Ait.
" triflorum, Pursh.
Ribes Cynosbati, L.
Saxifraga Pennsylvanica, L.
Mitella diphylla, L
Hamamelis Virginica, L.
Sanicula Canadensis, L.
Cornus alternifolia, L.
Viburnum lentago, L.
" pubescens, Pursh.
Galium boreale, L.
Valeriana edulis, Nutt.
Aster ptarmicoides, Torr & Gr.
Solidago stricta, Ait.
Castilleia sessiliflora, Pursh.
Scutellaria parvula, Michx.
Asclepias phytolaccoides, Pursh.
Fraxinus sambucifolia, Lam.
Dirca palustris, L.
Callitriche verna, L.
Betula alba—populifolia, Spach.

Salix discolor, Muhl.
" " sensativa, (S. sensativa Barratt.)
" eriocephala, prinoides, Pursh.
" cordata, Muhl.
" rigida, Muhl.
" rostrata, Richardson.
" nigra, Marshall.
" lucida, Muhl.
Populus grandidentata, Michx.
Pinus Banksiana, Lam.
" Strobus, L.
Taxus baccata, L. var Canadensis.
Symplocarpus foetidus, Salisb.
Smilacina bifolia, Ker.
Polypodium vulgare, L.

NOTE.—Gaura bienuis, Gymnocladus Canadensis, Morus rubra and Onybaphus nyctagineus marked "S" by Dr. Lapham, occur throughout the state.

THE TREES AND SHRUBS IN ILLINOIS.

By Frederick Brendel, of Peoria.

"Welcome, ye shades! ye bowery thickets hail!
Ye lofty pines! ye venerable oaks!
Ye ashes wild, resounding o'er the steep!
Delicious is your shelter to the soul."

Thomson.

It is a singular charm, to roam in a mighty forest, now below the green dome of transparent foliage, the lofty home of a melodious chorus, diffusing a magic light over the flower-covered ground; now below the darker shelter of a thick, leaty roof, where the mossy stone checks the murmuring rivulet, or the woodpecker's monotonous thump only interrupts the solemn silence.

Upward winds our path; we proceed to the platform of a steep rock. How delightful a scene opens to our view below! The rocky walls rise above an ocean of manifold shaped foliage, resplendent in fall-time with a variety of brilliant different colors and shades; a broad stream winds through the valley, reflecting on its silvery sheet the forms of the bordering willows or the houses of a peaceful village, or the smoking factories of a noisy city, on the background of which stretches the wide prairie, crossed by roads and checkered with farms and small groves. The horizon bounds a line of wooded bluffs. Everywhere a variety of points for the eye to rest on. A treeless plain fatigues the eye; a wilderness of naked rocks arouses gloomy sentiments; but the woods embellish the landscape as the curling hair does the child's blooming face.

To rob a country of this ornament, manifests a want of good taste. To destroy entire forests of useful trees proves an abundance of damnable heedlessness, which does not care about the future, and has been repented in many cases, when it was too late.

Every farmer should not only reserve a portion of good timber on his lands, but improve it by introduction of useful trees. Improved woodland will bring yearly a good rent to a wise economist. This has often been taught, but cannot be repeated often enough.

It is not my intention to give a systematical description of all our trees and shrubs. That can be found in any manual of botany, (particularly in Asa Gray's Botany of the Northern States.) Here it will

be sufficient to present a review of those species of woody plants, which constitute our woods, which with certainty can and which possibly might be found in each part of our state. Perhaps there is in every county one man, who takes so much interest in the physical exploration of the country he lives in, to make himself the trouble to compile a catalogue of the surrounding vegetation, with additional notes about the soil, the time of leafing, flowering, fruiting, shedding of leaves. Specimens about which anybody is in doubt, to examine I am ready any time. So we could in a couple of years easily finish the work, of which the foundation Mr. Lapham has laid in the second volume of these Transactions.

In a state like that of Illinois, the principal resources of which agriculture furnishes, a botanical survey is of no less importance than a geological survey. The riches which the fertile soil offers are worth to be known as much as those which the underlaying strata cover. The spontaneous vegetation of a soil indicates exactly its quality. Some specimens of plants possess qualities which are little known, but of a high value. How many do not know that the white willow, (salix alba, L.) furnishes the best and most durable fence posts. It has a rapid growth, obtains a considerable size and can be cultivated throughout the state. Many species growing spontaneously in any locality indicate that other species of any value, which like the same soil and climate, could be introduced and cultivated. Quite a number of advantages could be counted, which, though not so obvious to the first sight, would arise from a botanical exploration of the whole state.

Geographical Distribution of Woody Plats in Illinois.— The bulk of the woodland in Illinois occupies the southern portion of the state. In middle Illinois woodland and prairie are equally distributed. In the northern part (except Jo Daviess county,) the prairie prevails, the river bottoms only being wooded. Entirely destitute of woods are large tracts of land around the sources of Kaskaskia river, and the other left tributaries of the Illinois river, and the right tributaries of the Wabash river, in Livingston, Iroquois and Vermilion counties. Then between the Illinois river and Rock river. What is the reason of this want of trees over such large tracts of land? It is not sterility of the soil. The soil of our prairies possesses all those materials the growth of trees needs. Nor is it want of humidity, nor the violence of storms which sweep the plains. Though hurricanes occasionally prostrate trees of the largest size, they would not hurt the bending young tree, once having occupied the ground. The prairie fires we could accuse of destruction, provided there were no previous cause to acquit the fire from that crime.

In middle Illinois we generally find the bottom lands and bluffs covered with wood, because the action of running water makes the soil more loose and prevents the herbaceous perennials covering it with a thick tuft, so the seeds of trees can easily germinate and grow. On the table land the grasses have preoccupied the soil,

and their fibrous and manifold intricated roots, their tufted growth, prevent the seeds of trees, when transplanted by the wind, to germinate and take root. It is the victorious struggle of the pigmean army of united grasses against the mighty giants of the forest, who, like Antæus, get their strength only by footing on the ground, and who need the assistance of men to take possession of that ground.

How useful and how much needed the cultivation of forest trees in the prairie districts is, and how trees can be transplanted and cultivated, has been taught more than once in the two first volumes of these Transactions, by many an expert farmer, and it will be sufficient here to refer the reader to the same.

The American forest surpasses the European in a far greater variety of species growing in company; and this variety of different forms and colors, especially in fall, gives to the wooded districts a surprising appearance. Though the different species prefer different soil, exposition, humidity, etc., and many species are wanting in localities where others abound, we can easily find twenty to thirty different trees or shrubs upon a few acres of land. Along river banks we find, besides various willows, the cottonwood, the white elm, the sycamore, the silver-leafed maple; on rich bottom land the burr oak, the swamp white oak, the pecan nut, the black walnut, the butter nut, the hackberry, the ashes, the red maple, the box elder, the buckeye, the honey locust, the Kentucky coffee tree, the papaw, the red mulberry; higher up the bluffs the shell-bark hickory, the bitternut hickory, the mockernut, the white oak, the chestnut oak, the red oak, the black oak, the laurel oak, the water beech, the iron wood, the sassafras, the red bud, the basswood and the red cedar. Exclusively in swamps we find the American arbor vitæ. The two latter trees belong to the family of

The Coniferæ.—This family includes all those trees and shrubs which present the appearance of the pine. It differs from other woody plants chiefly by their naked seeds at the base of either tree or berry-like coalescent scales—their mostly persistent needle-shaped stiff leaves, and their resinous wood having no ducts, but consisting of a homogeneous fibre with circular disks on two opposite sides. One thing more distinguishes this family from many other trees—that the individual cannot be reproduced by layers, nor by shoots from the root.

A. Braun published six years ago some interesting observations on the development of the embryo and young plants of the Scotch pine, the Norway spruce, the European silver fir and the larch.

The albumen, containing oil and amylum, envelops the embryo, which consists of a long straight cylindrical axis and at least four cotyledons (five to nine in the spruce and fir, generally six in the pine.) The seeds of these coniferous trees germinate, when the weather is warm and moist, in ten to fourteen days—the fir in the beginning of May—the spruce, pine and larch in the last part of

May and the first part of June. The radicle pierces the integument the first, and when the albumen is consumed, the integument is thrown off and the cotyledons get their green color. The youngest plants are distinguished by the direction of the green cotyledons. The cotyledons of the fir, which has the largest embryo, are arranged in a horizontal verticil around the axis. The fir produces the first year rarely more than one verticil of leaves, which alternate with the cotyledons. The spruce turns the cylindrical cotyledons all to one side—the pine and larch keep the same straight upward. The root of all ramifies very early. The pine, which has the leaves in two, produces the first year only single leaves, with only two resinous channels, from the axils of which, in the second year, sprout the twin leaves, with many (to 24) resinous channels, of which the leaves of the other species have always only two. The larch has the two first years single leaves, and not before the third year appear the fascicles. The cotyledons of the coniferous trees serve at first as nourishment for the young plants; afterwards they have the function of leaves; those of the fir last several years; those of the other three species wither the first year. I had not yet the chance to make similar observations on our American species. Perhaps one or the other of our readers will communicate his experience in this line.

In Illinois we find only six species of this family, never forming large forests, but single or in small groups. Two belong to the proper pine family (genus pinus, sub-genus pinaster and strobus.) One of both is only a shrub, or a small tree. The gray or northern scrub pine (Pinus Banksiana, Lamb;) rarely found in only one locality in Ogle county, as I am assured by Mr. Bebb. The same gentleman informs me, that the other of the above species, the white pine, (P. strobus, L.,) is very frequent in the northern part of Illinois.

Three species belong to the cypress family—the American arbor vitæ, (Thuga occidentalis, L.,) the red cedar, (Juniperus Virginiana, L.,) and the bald cypress, (Taxodium distichum, Rich.)—the latter, in the southern states, a very large sized tree, and, by its durability, most valuable as timber; grows in the southern part of Illinois, but not to so large a size. This tree has a wide geographical extension. It grows in Mexico, on the table land, in a height of between 5400 and 7200 feet above the level of the sea, as well as in the swamps of the Mississippi, and all over the southern states, and attains a height of 120 feet, and near the base a diameter of 30 to 37 feet.—(Emerson Rep. on the Forests.) The roots of this tree present a very remarkable appearance of woody excrescences, of a rounded or conic or a table form, 3 to 4½ feet, prominent from the ground, which is probably the reason for the Mexican name—Ahuahuete,—which means water drum. These excrescences of the bald cypress can be regarded as exostoses, and, as they live in the open air, no doubt there would be an issue of shoots, if not the nature of the tissue of the coniferous trees were

opposed to the development of germs, which generally produce such shoots. (St. Hilaire Morph Veget.) Brongniart has described two more species of this genus: Taxodium microphyllum and Taxodium ascendens. The latter is Cupressus disticha, B. imbricaria, Nutt.; both in the southern states, but perhaps both only varieties.

The red cedar, (Juniperus Virginiana, L.,) extends from the Gulf of Mexico to 50 deg. N. L.—the variety humilis, even to 68 deg. N. L., where Richardson found it,—and from the Atlantic, beyond the Rocky mountains. This tree becomes 20 to 30 feet high and likes rocky and dry hills, where its sombre appearance between the young green of other trees in spring presents a delightful contrast.

The American arbor vitæ, on the contrary, prefers the swamps. It is easily recognized by the compressed branchlets and recurved branches; it is said to attain sometimes a height of 50 feet, but I never have seen it so large, and always only single specimens; but northward, extending to 50 deg. N. L., it forms the so called Cedar Swamps.

The Yew Family,(Taxineæ) is represented in Illinois only by one species—the American yew or ground hemlock, (Taxus canadensis. Willd.) It is a shrub not over eight feet high, occurring on moist rocks and river banks. Mr. Bebb has found it, but not frequent, in Winnebago county, and I have seen it in St. Clair county, (if I recollect right,) on the steep, springy bluffs, opposite St. Louis, at a place called Falling Spring. This is a northern species, and extends to 54 deg. N. L., and westward to Oregon The European species, (Taxus baccata, L.,) of which this seems to be a variety, becomes a tree, but occurs wild only in mountainous districts of Europe.

Endlicher's Synopsis Coniferarum, 1847, contains 312 actual and 178 extinct species—the latter, except three species, all detected in Europe, only one, (Peuce Americana, Unger,) in North America, (Illinois and Ohio;) it is not said in which formation, but probably in the carboniferous—the lowest that contains this family, and to which 17 of the above species belong. This number could probably be much increased by an attentive examination of our coal fields.

A remarkable fact is known of some coniferous trees, which has not yet been observed on other trees: that is the ability of the stumps to make new annual circles. On an old silver fir stump have been observed 30 such circles; so the stump increased in thickness 30 years—a phenomenon which is not yet satisfactorily explained.

The Willow Family, (Salicaceæ,)—is to botanists one of the most difficult, because the species can be defined only by the flowers and fruits, because the sterile flowers and the fertile are to be found only on different individuals, and the latter stand often very

distant from each other, and because, as Wimmer, a German botanist, has shown, so many proposed species prove to be only hybrids of two other species. Wimmer enumerates not less than 56 hybrids. Persoon (1805) names 115 species, of which to-day scarcely 70 are considered as true species; and although new ones have been discovered since, the total number of known willows will hardly be a larger one than 50 years ago.

Michaux (Flora Americana, 1803,) enumerates only five North American species; Nuttall (Genera of N. Am. Plants, 1818,) admits 20 indigenous; Pursh., (Flora Amer., Sept. 1814,) 37 species, of which 6 are northern, not belonging to the flora of U. S., and 6 introduced from Europe. One (Salix Houstoniana,) occurs only in the southern states; the rest, 24 species, within the limits of Gray's Botany of the Northern U. S. But Gray enumerates only 18 indigenous willows. Of these are 4 Alpine and only 14 are spread over the whole country, and occur probably all in Illinois. Lapham's Catalogue (Transactions, Vol. II.) contains only 5, except which I have found around Peoria: Salix candida, Willd., Salix petiolaris, Sm., S. cordata, Muhl., var. myricoides, S. angustata, Pursh., S. nigra, Marsh, S. pedicellaris, Pursh., and in a catalogue, kindly communicated to me by Mr. Bebb, I find S. discolor, Muhl., S. rostrata, Richardson, and S. lucida, Muhl., occurring in Winnebago county.

These 14 genuine American willows are generally found in bottom land and on river banks, where the whitish green gracile foliage gives to the landscape a peculiar, but when it predominates, a melancholy character. Like most of the European species, which extend over the whole Siberian territory to the Pacific—(willows have been observed on the banks of Amur river, with many other European trees)—the American willows have a large geographical distribution; at least some of them extend far west. Fremont has found Salix longifolia, Willd., and S. humilis, Marsh, on the Platte river; Abert the former and S. angustata on the Arkansas, and Emory on the Gila, several narrow leafed species.

Considering the inclination of the willows to produce hybrid forms, we must suspect some very approximate species. For instance, S. candida, S. tristis, S. humilis, S. discolor and S. eriocephala, to be not all true species. By experiments on producing artificial hybrids, as did Wimmer, some light could be thrown on this matter.

The other genus of this family, Populus (Poplar and Aspen) has a much smaller number of species. A. Gray names six, growing within the limits of his Botany of N. H. considering Populus candicans, Ait. as a variety of Populus balsamifera, L. Four of these are contained in Lapham's catalogue, to which I add P. grandidentata, Michx, in Peoria county and Winnebago county. The sixth, P. monilifera, Ait., is often confounded with P. argulata, our cottonwood, and both, perhaps, one and the same species. The latter is most common in the west. James, in Long's Ex-

pedition to the Rocky Mountains, says: "As far as our observation has extended, the poplar, most common in the country of the Mississippi, and, indeed, almost the only one which occurs, is the angulata. This tree is perhaps as widely distributed as any indigenous to North America, extending at least from Canada to Louisiana, and from the Atlantic to the lower part of Columbia river." Nuttall (Travels to Arkansas Territory) distinguishes two kinds of cottonwood, Popuuls angulata, which he calls sometimes P. angulisans, the yellow poplar, with the wood yellowish, and populus monilifera, the white poplar "never so large as the preceding, commonly growing in groves like the willows and presenting a bark, which is white and even." Lieut. G. W. Abert, in his report, names Populus monilifera and Populus canadensis, which are synonyms in Gray's Botany. Fremont mentions P. monilifera, Geyer (London Journal of Botany) P. canadensis. All use the vernacular name of "cottonwood." The catalogues of trees from different localities in Illinois enumerate either P. monilifera, or P. angulata—never both of them. The description of both presents so little difference that I think the same could result from local causes and different age of the collected specimens. It will be remarked that I am rather suspicious in many cases; but to believe will not do in scientific matters; doubt is the father, scrutiny the mother of truth. If I had the means to travel, I would follow the tracks of all the above reporters and judge by autopsy. So I can only see what occasion throws in my way, and I must doubt what I know only by imperfect descriptions. To show how patient printing paper is, I will give an example of printed absurdity. A gentleman, describing the landscape in Missouri, mentions the cottonwood, and thinks it necessary to give in parenthesis the botanical name—Bombax! This belongs to a quite different family, occurring only in the hottest regions of South America, but as the vernacular name of this tree is "silk cottonwood" the writer did not hesitate to transplant it to a country which he is about to describe and perhaps never has seen.

The cottonwood likes bottom lands exposed to annual inundations, and, on higher situations, such places where rain water stagnates.

P. balsamifera and tremuloides extend far north on the Mackenzie river, to 69 deg. N. L. Fremont has found the latter in the Wind-river mountains and the P. angustifola Torr., on the Sweetwater river.

The Birch Family (Betulaceæ.)—The birch and alder constitute this small family of trees, which habitate chiefly the northern and highest mountain regions. The dwarf or Alpine birch (Betula nana L.,) extends to 70 deg. N. L. The canoe birch (B. papyracea, Ait.,) to 69 deg. N. L.; the low birch (B. pumila, L.,) and two species of alder (Alnus incana, Willd.,) and Alnus viridis, De C., to 68 deg. N. L., on the Mackenzie river. In Illinois I have seen the red birch (Betula nigra, L.,) in St. Clair county, on the banks of

the Kaskaskia river, but never around Peoria. The white birch (Betula alba, var. populifolia, Spach.,) as I learn from Mr. Bebb, grows in Jo Daviess county; the canoe birch, which has the bark externally white, like the last, growing in Wisconsin abundantly everywhere, might be sought for in our northern counties as well as one species of Alder (Alnus serrulata, Ait.,) which occurs in Wisconsin and Kentucky, and probably in some places in Illinois. Of all the trees the birch stands the cold climates the best. The white birch extends in Europe to the 71 deg. N. L., and nearly so around the north pole, on both continents. In the warmer zones the birch and alder occur only on the highest mountains; one birch has been detected on the Himmalya, and three species of alder Humboldt met with on the Andes of South America, but not below an elevation of 8,500 feet, and in Mexico in a height of 3,800 feet. The number of known species of both genera is about 36, of which in North America occur 8 birch (with Betula occidentalis, Hook, found by Fremont in a great elevation of the Windriver mountains) and three alder.

The Oak Family (Cupuliferæ.)—This contains of the most important of our forest trees, the different species of oak, the beech, the ironwood, the hornbeam, the hazelnut. An American genus, not represented in Illinois, is the Chestnut, and two genera, Lithocarpus and Distegocarpus; belong to Eastern Asia (Java and Japan.) In Lapham's catalogue of Illinois plants 13 species are enumerated, of which a catalogue of Wisconsin plants contains six, and one more (Quercus prinos, L.,) which we do not find in the former. The most common species are the white oak (Quercus alba, L.,) the bur oak (Q. macrocarpa, Michx.,) the red oak (Q. rubra, L.,) and the black oak (Q. tinctoria, L.) These grow everywhere in the woods of Illinois. The post oak (Q. obtusiloba, Michx.,) I met everywhere in St. Clair county, but never around Peoria. It occurs in Marion country, not in Winnebago county, but Dr. Houghton has found it on the Upper Mississippi, in Wisconsin. Michaux joined the chestnut oaks as five varieties in one species, Q. prinus, and I think he was right. A. Gray does the same, at least with three of the proposed species. Different soil and exposure affects the different appearance. The variety palustris, (Q. prinus, L.,) and discolor (Q. bicolor, Willd.,) the swamp chestnut oak and the swamp white oak, grow in low alluvial bottoms and swamps—the former more southward, the rock chestnut oak (Q. prinus monticola, Michx., Q. montana, Willd.,) in rocky places, chiefly in the Alleghanies; the wood is heavier and more valuable than that of both the former. The yellow oak (Q. prinus acuminata, Michx., Q. castanea, Willd.,) grows on hills, has the leaves narrower and the acorns small. The chinquapin oak (Q. prinus chinquapin, Michx., Q. prinoides, Willd.,) grows in sandy soil, (not in Illinois,) and is a mere shrub, not over six feet high. The yellow oak is common in Peoria and Tazewell county; it occurs in Cook county

and Winnebago county, but I do not recollect to have seen it in St. Clair county, nor does Mr. Bebb mention it in his catalogue of trees in Marion county. Perhaps it is confined to the northern portion of this State. The swamp white oak is not rare in the bottoms of Peoria lake, in Cook county and St. Clair county, but not reported either from Marion or Winnebago counties. The rock chestnut grows in Marion county. The swamp chestnut oak Mr. Lapham found near Janesville, Wis., which is not far from our northern state line. The laurel oak (Q. imbricaria) is common around Peoria, in St. Clair county, Marion county and Menard county, but as it seems not in Cook nor Winnebago counties. So I missed it in Lapham's Wisconsin catalogue, although A. Gray says, "from New Jersey to Wisconsin." The black oak or barren oak (Q. nigra, L.,) growing in St. Clair, Marion and Menard counties, seems to have its northern limits in Middle Illinois. The pin oak (Q. palustris, Du Roi.,) I have never seen around Peoria, nor did, as I learn by letter, Mr. Hall in Menard county; it occurs in St. Clair and Marion counties, in Wisconsin and Cook county, (*fide* Mr. Jackson.) The scarlet oak, I must confess, I do not know whether I have seen it or not and whether it exists as a true species at all. Indeed the differences between this and Q. tinctoria, Berti., as far as described, are so unimportant, that I must suspect Q. tinctoria var. angulosa and var. sinuosa, and Q. coccinea are varieties of one species. The leaves turning bright scarlet in autumn, which have furnished the specific name, are of no importance in systematical botany. I have seen scarlet and yellowish brown leaves, with deep and with shallow sinuses, on one and the same tree, every fall. Q. Leana, Nutt., being a hybrid, I do not think, that except the above, another species of oak occurs in Illinois. The genus Quercus is a large one, and continues to increase in number of species by new discoveries, chiefly in the Indian Archipelagus; but at the same time many proposed species have been degraded to the rank of mere varieties of others.

The beech of this continent (Fagus ferruginea, Ait.,) was formerly supposed to be a mere variety of the European Fagus silvestris, L., but it seems to be a proper American species, which forms large forests between the St. Lawrence and the Atlantic, extending southward along the Alleghanies to Georgia, westward to Wisconsin and northwest to Lake Huron and Lake Winnepeg, 50 deg. N. L. Mr. Lapham names it in his catalogue of Illinois plants, but I have never seen it in this State, nor did I find it in any of the catalogues which have been communicated to me from different localities. Dr. Roe, of Bloomington, told me he had seen the beech among the wood piled up at the railroad station, and he had no doubt it could be found within twenty miles of Bloomington. It would be very interesting to know how far west this tree took possession of the soil.* Dr. Engleman, of St. Louis, informs me

---

* Mr. Ulfers has seen the Beech in the northern part of Union county.—(Editor.

that the beech crosses the Mississippi along the highlands, near Cape Girardeau. The beech, as I have shown in a paper written for the convention of naturalists at Bloomington, and published in Emery's Journal of Agriculture, is much inclined to migrations, and takes possession of entire countries where it did not exist before—for instance, Denmark. Well, we will not live to see the actual progress of this migration, but the botanists of future times will be grateful for notices collected now on such facts in botanical geography.

The hornbeam, or the blue beech or water beech (Carpinus Americana, Michx.,) is indiscriminately with the hop-hornbeam (Ostrya Virginica, Willd.,) called ironwood. Both occur in the woods throughout the State; the latter northward to 50 deg. N. L. Very common too is the wild hazelnut (Corylus Americana, Walt.) In Wisconsin grows another species, the beaked hazelnut (Corylus rostrata, Ait.,) which, perhaps, could be found in our northern counties. Both extend north to 54 deg. N. L.

The Walnut Family, (Juglandaceæ.)—It contains two American genera, Juglans (the walnuts,) and Carya (the hickories;) the former, with two North American species; the black walnut (Juglans nigra, L.,) and the butternut (J. cinerea, L.,) both growing everywhere in Illinois and in the United States, east of the Mississippi. The latter has nine North American species, of which two, the water bitternut hickory (Carya aquatica, Nutt.,) and the nutmeg hickory (Carya myristicæformis, Nutt.,) occur only in the northern states. Northward extend the walnuts and hickories—not beyond Lake Superior. In Illinois we find the shell-bark hickory (Carya alba, Nutt.,) and the butternut (Carya amara, Nutt.,) throughout the State. The pignut, or brown hickory (Carya glabra, Torr.,) I have not seen around Peoria, but it is named amongst the trees of Menard county and Winnebago county. The mockernut (Carya tomentosa, Nutt.,) in Peoria county, Menard county and Marion county. The pecan nut (Carya oliveæformis, Nutt.,) an exclusively western species, in Tazewell county, Menard county and St. Clair county. The thick shell-bark hickory extends according to A. Gray, from Pennsylvania to Illinois, but I did not observe it myself,nor do I find it in any catalogue. Only two, the Carya alba and C. glabra, pass our northern State line into Wisconsin. Of both genera, Leibman has, several years ago, published one species, which he discovered in Mexico, Carya tetraptera, Liebm., and Juglans pyriformis, Liebm. A new genus, from China, named Lindley Fortunæa chinensis.

The Plane-Tree Family, (Platanaceæ.)—This is one of the smallest in number of species, not in size of the trees. It consists only of the genus Platanus, with a few species, of which only Pl. occidentalis, L., grows in North America, from 47 deg. N. L. to the Gulf, and from the Atlantic to the Plains; a second American species (Pl. Mexicanus, Moric.,) in Mexico and California. Our tree

has different vernacular names: Buttonwood, water beech, plane-tree; in Canada cotton-tree, in the western states generally sycamore. It is found on the river banks everywhere.

The Nettle Family; (Urticaceæ.)—This family comprises several sub-families, of which two contain trees growing in Illinois. The bread-fruit family (Artocarpeæ,) with one species of the Morus, the red mulberry, (Morus rubra, L.,) growing wild in Illinois everywhere. Two European species, the white and black mulberry, are sometimes cultivated. Mr. Lapham does not name the red mulberry in his Wisconsin catalogue, and marks it in his Illinois catalogue with S., but it grows in Menard county, and abundantly around Peoria; it occurs in Grundy county and sparingly in Winnebago county. Just as well it might be found in the southern part of Wisconsin.

Of the Elm Family, (Ulmaceæ,)—we have certainly three species: the white elm (Ulmus Americana, L.,) the slippery elm (Ulmus fulva, Michx.,) and the hackberry or nettle tree (Celtis occidentalis, L.,) Celtis crassifolia, Lam., is only a variety of the latter. All throughout the State, the hackberry extending to Lake Superior, the white elm to 54 deg. N. L. The corky white elm (Ulmus racemosa, Thom.,) growing from the eastern States to Michigan, may, perhaps, extend to Northern Illinois, and so possibly to Southern Illinois, two southern species growing in Kentucky, the winged elm or wha-hoo (Ulmus alata, Michx.,) and the planer-tree (Planera aquatica, Gm.)

Thymeleaceæ.—The leatherwood, or moosewood, in New England called Wicopy (Dirca palustris, L.,) a low shrub, omitted in Lapham's catalogue, has been found by Mr. Bebb, in Winnebago county.

The Laurel Family, (Lauraceæ.)—Sassafras officinalis, Nees., as far as I can find it in the local catalogues, grows northward to Grundy county; the spice bush (Benzoin odoriferum, Nees.,) to Menard county; but as both occur in Canada, although not in Wisconsin, it is not improbable that both can be found more northward. The sassafras around Peoria attain a considerable size

The Olive Family, (Olivaceæ).—The ash, belonging to this family, is represented in Illinois by 5 species: the white ash (Fraxinus Americana, C.,) everywhere in the wooded bottoms and extending north 54 deg. N. L., the red ash (Fraxinus pubescens), around Peoria, in the Illinois river bottom, in St. Clair county, and Menard county northward, extending to the Rainy river, 49 deg. N. L. The green ash (F. viridis, Michx.,) occurs, according to A. Gray, in Illinois, but I have not yet seen it, nor is it indicated in any catalogue. The black or water ash (F. sambucifolia, Lam.,) grows in Grundy county, Cook county and Winnebago county, but probably throughout the State, as it is in Kentucky.

The blue ash (F. quadrangulata, Michx.,) around Peoria, in Menard county and Grundy county. On the banks of the Ohio, in South Illinois, there is a shrub which seems not to find a resting place in any family. Torestiera ligustrina, Poir., in Gray's botany is placed in the olive family, the same place it occupies in Lapham's catalogue, in which, at the same time, we find it, under another name, (Borya ligustrina, Willd.,) amongst the Artocarpeæ. Jussieu put it to the Euphorbiaceæ, and, except the above names, it had a third one. In Michaux's Flora, the genus is called Adelia. Nutall (in Gen. of N. Am. Pl.) enumerates 4 species, all growing in the southern States. Perhaps we have two species in South Illinois, or Nuttall, in his Trav. into the Ark. Terr., has mistaken F. ligustrina for F. acuminata, Poir. He says: "Where (at Shawneetown) we remained for the night, having our boat tied to a stout branch or stem of the Borya acuminata, which grows here in abundance, and is nearly as thorny as a sloe bush, sending many straight stems from the same root." The differences between both species are not great; the leaves of the former are entire and nearly sessile; those of the latter minutely serrulate and petioled. Botanists do not agree in another point: the time of flowering. In Gray's Manual April is indicated; in Pursh's Flora Americ., July and August. Torestiera ligustrina is common on the Cahokia creek, St. Clair county.

The Bignonia Family (Bignoniaceæ).—This is a tropical, chiefly South American family, which has only a few representatives in the northern temperate zone. Bignonia capreolata, L., according to A. Gray, grows in Illinois, probably the most southern part. Tecoma radicans, Juss., the beautiful Trompet-creeper, is common around Peoria, and occurs, probably, farther north, but not, as it seems, in Wisconsin. A third species is catalpa bignonioides, Walt., a beautiful ornamental tree, which is often cultivated, but of a doubtful native home. Nutall says, in his Genera: "Rarely to be met with, decidedly indigenous to the U. S., and appears to have been introduced by the aborigines; hence the name 'Catawba,' derived from a tribe of Indians residing on the Catawba river. In most of the habitats of this tree, given by Michaux, which I have visited, if existing at all, it had evidently been introduced. I am informed, however, by Governor Harrison, of the indubitable existence of this tree, in very considerable quantities, in the forests of the Wabash, Illinois Territory, where its wood is even split for rails. Still, even here it is extremely local, and I have never once met with it, either on the banks of the Ohio, the Mississippi or the Missouri rivers, which I have ascended and descended thousands of miles."

A couple of years afterwards Nuttall saw it below New Madrid, Mo., "in the forests, apparently indigenous, for the first time in my life, though still contiguous to habitations." (Trav. into Ark. Terr., page 47.) Edwin James, (in Long's Exped., I., 33,) nearly the same time Nutall descended the Ohio for Arkansas, found,

between the mouth of the Cumberland and Tennessee river, the catalpa, here called petalfra, but near a deserted settlement.

Can anybody, living in Southeast Illinois, render account concerning the above considerable quantity "of catalpas split for rails?"

The Sapodilla Family, (Sapotaceæ.)—One species grows in South Illinois, Bumelia lanuginosa, Persh., in St. Clair county.

The Ebony Family, (Ebenaceæ.)—The Persimmon, (Diospyros Virginiana, L.,) certainly as far north as Cass county.

The Horax Family, (Hyracaceæ.)—It is not sure that this family is represented in Illinois, but the snowdrop or silverbell tree (Halesia tetraptera, L.,) has been found near Evansville, on the Ohio, and might be sought for in the south part of this State.

The Holly Family, (Aquifoliaceæ.)—Two species belonging to one genus of this family are certainly in Illinois. The black alder (Ilex verticillata, A. Gr.,) I have seen in St. Clair county, and Ilex decidua, Walt., I received from Dr. Welsch, of the same county. The mountain holly, (Nemopanthes canadensis, Raf.,) perhaps, can be found in the northern counties.

The Heath Family, (Ericaceæ.)—The cranberries being woody plants, although only very low shrubs, we cannot omit. Two contains Lapham's Catalogue, the black huckleberry (Gaylussacia resinosa, Torr. and Gr.,) and the blue huckleberry (Vaccinium Pennsylvanicum, Lam.,) probably only in the northern counties, where occurs, perhaps, a third species, being a Wisconsin plant, the common American cranberry (Vaccinium macrocarpon, Ait.)

The Madder Family, (Rubiaceæ.)—Amongst 14 species growing in Illinois, only one is a woody plant, the everywhere common button-bush (Cephalanthus occidentalis, L.)

The Honeysuckle Family, (Caprifoliaceæ.)—There are seven North American genera, of which each, except Linnæa, has representatives in Illinois. The sheepberry (Viburnum Lentago, L.) and the common elder, (Sambucus canadensis, L.,) throughout the State; the Cranberry tree, (Viburnum opulus, L.,) in the northern; Viburnum obovatum, Walt., in the southern counties; the black haw, (Viburnum prunifolium, L.,) at least as far north as Peoria; the Indian Currant or Coral-berry (Symphoricarpus vulgaris, Michx.,) and the Snow-berry (Symph. racemosus, Michx.,) I have seen, in St. Clair county—not around Peoria, the small honeysuckle (Lonicera parviflora, Lam.,) at least as far north as Peoria; the yellow honeysuckle, (Lonicera flava, Tims.,) in Winnebago county. The bush honeysuckle (Diervilla trifida, Moench,) I have not seen, but is enumerated in Lapham's Catalogue, and occurs probably in the northern counties, as may do seven other Wisconsin plants of this family: (Symphoricarpus occidentalis, R. Br.; Lonicera ciliata, Muhl.; Lonicera coerulea, L.; Lonicera oblongifo-

lia, Muhl.; Sambucus pubens, Michx.; Viburnum dentatum, L., and Viburnum acerifolium, Lam.

The Dogwood Family, (Cornaceæ.)—The Flowering Dogwood (Cornus florida, L.,) occurs in St. Clair county and Marion county. I have never seen it around Peoria, nor is it amongst Lapham's Wisconsin plants, but, as the general northern limit of this tree, as well as of Cornus sericea, L., and Cornus circinata, L'Her., is 47 deg. N. L.; it may be found on single localities throughout the State. Cornus sericea, L., I find in a catalogue of plants, in St. Clair county, I received from Dr. Welsch, in Mascoutah. The panicled cornel (Cornus paniculata, L'Her.,) and the Red Osier Dogwood, (Cornus stolonifera, Michx.,) throughout the State, the latter extending to 69 deg. N. L. Cornus asperifolia, Michx., Gray indicates in Illinois, perhaps in the southern part; and so may be found in the northern part, the Wisconsin species, Cornus alternifolia, L., and Cornus circinata, L'Her. The Tupelo or Sour Gum tree (Nyssa muitiflora, Wang.,) grows in St. Clair county, but how far north I could not ascertain.

The Witchhazel Family, (Hamamelaceæ.)—The Sweet Gum tree (Liquidambar styraciflua, L.,) I find in Lapham's Catalogue, but in none of those I have from different parts of Illinois. Another species, of the same family, the Witchhazel (Hamamelis Virginica, L.,) Mr. Bebb has seen in Ogle county.

The Saxifrage Family, (Saxifragaceæ.)—There is one shrubby plant in this family, Hydrangea arborescens, L., not rare around Peoria and in St. Clair county, and probably everywhere in Illinois.

The Currant Family, (Grossulaceæ.)—The smooth White Gooseberry (Ribes rotundifolium, Michx.,) and the wild Black Currant, (Ribes floridum, L.,) are both common shrubs everywhere. That the Swamp Gooseberry, (Libes lacustre, Poir.,) occurs in Grundy county I learn from Mr. R. K. Slosson. Ribes cynosbati, L., Ribes hirtellum, Michx., and the Red Currant (Ribes rubrum, L.,) are to be sought for.

The Rose Family, (Rosaceæ.)—There is a large number of species we have to put in consideration. Roses we have four in St. Clair county: Rosa setigera, Michx., Rosa blanda, Ait., Rosa Carolina, L., and Rosa lucida, Ehrh. The two first around Peoria not rare, and the second in Winnebago county. The Black Raspberry (Rubus occidentalis, L.,) and the common Blackberry (Rubus villosus, Ait.,) we find everywhere, and so, perhaps, Rubus strigosus, Michx., Rubus Canadensis, L. and Rubus hispidus, L. Rubus trivialis, Michx., I have seen in St. Clair county, and Rubus triflorus, Rich., occurs perhaps in the northern counties. The common Meadow Sweet (Spiraea salicifolia, L.,) I found in St. Clair county, and Mr. Bebb, in Winnebago county, where also occurs Spiraea opulifolia, L. Hawthorns we have three: Cratægus crus galli, L.

Cratægus coccinea, L., and Cratægus tomentosa, L., with its varieties everywhere. The Juneberry, (Amelanchier Canadensis. Torr. and Gr.,) the Crab Apple, (Pyrus coronaria, L.,) the wild Plum, (Prunus Americana, L.,) the wild Black Cherry, (Cerasus serotina, DeC.,) the Choke Cherry (Cerasus Virginiana, De C.) are common. The wild Red Cherry (Cerasus Pennsylvanica, L.) and the Chickasaw Plum (Prunus Chicasa, Michx.) I have not seen, but the latter is reported from Grundy county—whether indigenous or naturalized, that is the question—and the former from Cook county and Winnebago county. The Chokeberry (Pyrus arbutifolia, L.,) grows in Wisconsin and probably in our northern counties. The American Mountain Ash (Pyrus Americana, De C.,) I got from the Mackinaw bottom, 10 miles south of Pekin, Tazewell county, where it, I was assured, grows wild.

The northern extension of the several species is as follows: Cratægus coccinea, L., Rubus Canadensis, hispidus and villosus, Rosa setigera, to 47 deg. N. L.; Spiræa opulifolia and tomentosa to 50 deg. N. L.; Prunus Americana, Cerasus Pennsylvanica, Rubrus strigosus, occidentalis and Pyrus arbutifolia to 54 deg. N. L.; Pyrus Americana to 60 deg. N. L.; Cerasus serotina, Spiræa salicifolia, to 62 deg. N. L.; Cerasus Virginiana and Amelanchier Canadensis, to 67 deg. N. L.; Rosa blanda, to 69 deg. N. L.

We perceive the trees and shrubs of the Rose family have mostly a far northern extension. Not so those of another.

The Pulse Family, (Leguminosæ.)—The trees of this family habitate generally the tropic zone, and only a few occur in our climate. Only two we find in the Wisconsin Catalogue: the Honey Locust (Gleditschia triacanthos, L.,) and the false Indigo, (Amorpha fruticosa, L.,) northward to Lake Winnipeg. Two extend to 46 deg. N. L., in Canada: the Red Bud (Cercis Canadensis, L.,) and the Coffee-bean tree, (Gymnocladus Canadensis, L.,) these four probably everywhere in Illinois. The Water Locust (Gleditschia monosperma, Walt.,) has Nuttall seen near Fort Massac, on the Ohio. Wistaria frutescens, DeC., in South Illinois, (*fide*, Michaux.) It is rather difficult to determine the original geographical distribution of the Locust tree, (Robinia pseudacacia, L.,) because this tree is cultivated and naturalized on so many places; but the centre of its original home is probably Kentucky, and we can presume that it is a native of South Illinois too; northward, it extends in cultivation, to 47 deg. N. L. Robinia pseudacacia is certainly in a wild state as far north as Randolph county, Ill.; *fide* Engelman.

The Maple Family, (Aceraceæ.)—Consisting of two genera, (Acer with 52 species and Negundo with 3 species,) is confined within the northern temperate zone. The former numbers 25 Asiatic, 13 European, 10 North American species and 4 species the native home of which is not ascertained. Two species of Negundo are American—one grows in Japan. In Illinois are found the Sugar Maple, (Acer saccharinum, Wang.,) the White Maple,

(Acer dasycarpum, Ehrh.,) the Red or Swamp Maple, (Acer rubrum, L.,) and the Box Elder (Negundo aceroides, Mœnch.) The latter extends to 54 deg. N. L.; Acer rubrum to 53 deg. N., L. in the Rocky Mountains; eastward only to 50 deg. N. L., on Lake Winnipeg, which is the northern boundary of Acer saccharinum, Acer spicatum, Lam., and Acer Pennsylvanicum, L. The two latter are said to grow in Wisconsin, and so, perhaps, in North Illinois. The White Maple extends only to 46 deg. N. L., and is rare north of 43 deg. Six species are natives of the Rocky Mountains, Oregon and California; four other proposed species I did not include in the above number, because they are doubtful.

Sapindaceæ.—To this family belong the Buckeyes, of which Lapham's Catalogue contains two; but I have never seen, in Illinois, another species than Æsculus glabra, Willd., which is common everywhere in the southern and middle portions of Illinois.

The Blatternut Family, (Staphyleaceæ.)—The Blatternut (Staphylea trifolia, L.) is not rare throughout the State, and extends northward to the south shore of Lake Superior.

The Stafftree Family (Celastraceæ.) —The Bittersweet or Waxwork (Celastrus scandens, L.,) and the Spindle tree (Euonymus atropurpureus, Lacq.,) are common, and extend to Lake Superior. Another species of the latter genus (Euonymus Americanus, L.,) I did not yet meet with.

The Buckthorn Family, (Rhamnaceæ.)—There are two indigenous Buckthorn in Gray's Manual, of which one (Rhamnus lanceolatus, Pursh.,) is not rare around Peoria, in Menard county and St. Clair county, the other (Rhamnus alnifolius, L'Her.,) is said to occur in Wisconsin, and so, perhaps, in North Illinois, but it extends chiefly northward to 58 deg. N. L. The New Jersey Tea (Ceanothus Americanus, L.,) grows from Lake Superior southward, and is, in Illinois, very common; but another species (Ceanothus ovalis, Big.,) I find only in the catalogue of Winnebago county, with the mark "rare."

The Vine Family, (Vitaceæ.)—There are two genera in North America: Ampelopsis, with one species, (A. quinquefolia, Michx.,) which is common in Illinois, and extends to 50 deg. N. L., and Vitis, with eight species. Vitis bipinnata, Torr. and Gr., Vitis incisa, Nutt., Vitis vulpina, L., and Vitis rupestris, Scheele, in the southern States, the latter in Texas. Vitis indivisa, Willd., a southern species, too, I have collected in St. Clair county. Vitis riparia, Michx., is only a variety of Vitis cordifolia, Michx., which, with Vitis æstivalis, Michx., occurs in Illinois, probably, everywhere. Vitis Labrusca, L., I have not seen in a wild state.

The Cashew Family, (Anacardiaceæ.)—I find 5 species of Sumach enumerated in Lapham's Catalogue, of which I have met with only three. Rhus glabra, L., Rhus toxicodendron, L., both

common, and Rhus aromatica, Ait., which I have seen in St. Clair county and around Peoria. These three extend northward to 54 deg. N. L. Rhus copallina, L., grows in Ogle county, and is, according to Dr. Engleman, very common in Southern Illinois, and Rhus typhina, L., is said to grow in St. Clair county, where to have seen it I do not recollect. Rhus venenata, De C., is distributed from Canada to Louisiana, so it may be found within the limits of our Flora.

The Rue Family, (Rutaceæ.)—The Prickly Ash (Zanthoxylum Americanum, Mill.,) and the Shrubby trifoil or Hop tree (Ptelea trifoliata, L.,) are not rare in thickets, and occur northward to 46 deg. N. L.

The Linden Family, (Tiliaceæ.) The Basswood, (Tilia Americana, L.,) is common, and occurs to the Lake Winnipeg, 50 deg. N. L. Three other species, Tilia heterophylla, Vent., "on the banks of Ohio and Mississippi," (Pursh.,) Tilia alba, Michx., "in the western States," (Michx. fil.,) and Tilia pubescens, Ait., "in Kentucky," (Short.,) are to be sought for. Perhaps one or the other can be found in Illinois.

The Custard-Apple Family, (Anonaceæ.)—Of this family is generally tropical and only one occurs in Illinois: the Papaw, (Asimina triloba, Dun.,) very common around Peoria, but rarely fruit-bearing. The most northern locality I could ascertain is Grundy county.

The Magnolia Family, (Magnoliaceæ.)—The North American Magnolias habitat, generally, the Alleghanies, but one occurs in the most southern portion of Illinois: the Umbrella tree, (Magnolia Umbrella, Lam.,) and one species of another genus, the Tulip tree, (Liriodendron tulipifera, L.,) wrongly called Poplar. It would be interesting to find out their northern and western limits.

In the above account I have named nearly two hundred woody plants, which, for the larger part, certainly grow in Illinois, and of which the rest is expected to be found yet. Of these woody plants are large trees about 40, middle sized trees about 25, small trees 30, shrubs 80 to 85 and twining or creeping woody plants 10. I mentioned often the trees and shrubs which occur in the bordering States to indicate the probability the same could be found in this State. The northern extension of many species taken from the report of Richardson, and the southern extension of others will show that some species which do not grow spontaneously in Illinois, could grow there if transplanted. Sometimes I have given the total number of species and genera of a family to show the proportion of the American and Illinoisan species. Other episodes I made occasionally to interrupt the monotonous enumeration and to give the reader a chance to make interesting observations.

[Face page 605.

[Face page 605.

THE OAKS OF ILLINOIS.

By Frederick Brendel, of Peoria, Illinois.

It was my intention to present in this essay a complete description of all our forest trees, with illustrations, so that every body could identify each species at once. But as I had not the necessary leisure to do so, I will, for the time, begin with the oaks, one of the most important genera that compose our forests.

The oaks in Illinois are mostly large trees, partly of a very irregular growth. This irregularity is not founded in nature, but the effect of different external causes. Any tree, if not disturbed by external influences, would grow up as regular as a crystal is. A certain mode of growth is innate to each species, but as the conditions, under which the individual plant grows up, are different, a variety of irregular shapes are produced. For instance, the seed of a tree is planted and germinates. For the first time the young plant will produce regularly distributed leaves, buds and twigs. Making a horizontal cut through the young stem we remark in different species different forms of the pith and the surrounding woody layer. In the oaks it forms a five rayed star. One of these rays is prolongated at a certain place and produces a leaf and in the axil of the same a bud, to be developed the next year. One ray, considered the first one, upward, to a certain interval, the third ray produces its leaf and bud, then the fifth, then the second, then the fourth—all in a spiral line, to a certain point—where the sixth corresponds to the first one. This spiral line runs either from the right to the left, or from the left to the right. Often are both directions found in the same tree. In the oaks the spiral line of leaves makes two turns, before one is to come immediately above another, and this is the sixth one counted from the first one. This arrangement is called phyllotaxis, and is indicated for the oaks by 2-5, 2 indicating the number of turns and 5 the number of the leaves which make both turns. Suppose now that each bud would develop undisturbed and receive the same quantity of nourishment, and each branch arising from the bud protected against external influences would keep its original direction, we

would see in winter, when the leaves are fallen, the single trees of one species one just alike the other—mathematical regular figures. But the trees, exposed to various influences, present quite another aspect. Storms break and bend the branches; animals destroy single buds. Often we see the branches on one side of a tree stronger than on the other, and when we examine the root, we find the branches of the root stouter on the same side; and by further examination certainly we can find out the reason of it; either the soil on that side contains more alimentary matter or more humidity, or the branches of the root are destroyed more or less on one side, and so on. Single standing young laurel oaks show often a great regularity of growth, the leafy crown forming a short cone. The most irregular forms have exposed old white oaks, post oaks and the black jack oak.

The flowers of all our species appearing in May are monœcious, *i. e.*, sterile and fertile ones separated, but on the same tree—the former below, the latter above, on the young twig. The sterile flowers are clustered loosely at the base, densely towards the point of a slender drooping catkin, which has a very small rudiment of a bract at its base, and is covered in the bud by two large lateral stipules which by botanists have been mistaken for scales. The flower consists of a membranaceous, often hairy, perianth; which is more or less parted in several lobes and bears inside at the base a variable number of stamens. I have observed 4 in the black oak, 4 to 5 in the laurel or single oak, 5 in red oak, 5 to 6 in white oak, 6 to 7 in the overcup white oak, 7 to 8 in chestnut oak. The stamens are longer than the anthers in the black and the red oak. The perianth is mostly sessile or very short pediceled, but has a very conspicuous pedicel in red oak; it is cup-shaped and short-lobed in red oak and shingle oak; cup-shaped and deeper cut in black oak; more flat and short-lobed in chestnut oak; deeply lacerated in white oak and over-cup oak. The lobes of the perianth correspond generally with the number of stamens. The fertile aments are solitary in the axils of the leaves, few flowered, the terminal flower mostly abortive. The involucre consists of minute scales, afterwards forming a cup around the base of the one-seeded nut. The ovary has three united styles, with three distinct stigmas, and is three-celled, each cell with two ovules, but all, except one, abortive.

The fruits, in general, consist of foliaceous expansions of the fibro-vascular bundles in the stem, from which they originate, like the true leaves, the sepals, the petals, the stamens. Dissecting the acorn of the oak we observe on the tomentose endocarp three distinct (often projecting) lines, formed by the connection of three leaves. The summits of the same penetrate the apex of the fruit as three styles. Only one of the six ovules ripens and takes afterwards possession of the whole cavity. The seed is enveloped in a proper membranaceous tender leaf, the margins of which are inflexed in a longitudinal rim between the cotyledons. This envelop-

ment of the seed in leafy expansions reminds us of the involute fruitiferous fronds of some ferns, and is indeed analogous.

The acorns of the oaks ripen either the same season, (and we find them in the axils of the leaves—so in Qu. alba, macrocarpa, obtusiloba, Prinos, castanea,) or not before fall of the next year; and then we find them below the leafy shoot of the season, in Qu. imbricaria, nigra, tinctoria, rubra and palustris.

It is not difficult to recognize the different species of Quercus by the fruit. The cup covers only one fouth or third part of the acorn in Qu. alba, rubra and palustris; nearly one half is covered by the cup in Qu. obtusiloba, castanea, Prinos, imbricaria, nigra tinctoria, and nearly inclosed is the acorn in Qu. macrocarpa. The upper scales of the cup in the last species, and often in Prinus var. discolor are subulate and give to the margin a fringed appearance. The scales, which generally are arranged in 10 to 12 rows, are tuberculate in Qu. alba; very smooth and appressed in Qu. rubra, palustris and imbricaria; very small and tuberculate in Qu. castanea; large and tomentose in Qu. tinctoria. The acorn is large in Qu. macrocarpa, Prinus var. discolor, alba, and rubra, sometimes more than an inch long, and the cup in the two former one inch in diameter; it is middle sized in Qu. tinctoria; obtusiloba, nigra, small in Qu. imbricaria, castanea and palustris; it is oblong in Qu. alba, Prinus discolor; rubra, ovoid or globose in Qu. imbricaria, castanea, palustris, tinctoria, nigra, macrocarpa and obtusiloba; very smooth in Qu. alba and imbricaria—in the latter often with dark longitudinal stripes; partly covered with a farinaceous pubescence in Qu. macrocarpa, Pinos discolor, and tinctoria. The fruit is long peduncled in Qu. alba, Qu. macrocarpa and Qu. prinus discolor; shorter in Qu. obtusiloba and castanea; very short peduncled or sessile in Qu. imbricaria, nigra, tinctoria, rubra and palustris.

The leaves are very variable, often on the same tree; and if we w0uld distinguish oaks merely by the leaves, we could create innumerable new species. The margin of the leaf is entire and in vernation revolute in Qu. imbricaria, coarsely serrate with callous points and in vernation plicate in Qu. Prinos discolor and Qu. castanea; it has a few blunt lobes in Qu. nigra, more or less deeply lobed is it in Qu. macrocarpa, alba, obtusiloba, tinctoria, rubra and palustris The three latter and Qu. nigra have the lobes setaceously mucronate. All are tomentose, when young, and some, at least, below, even when old; for instance, Qu. macrocarpa, obtusiloba, imbricaria, Prinus discolor, and castanea; the latter has the older leaves, while below, with smooth yellowish brown ribs; some are shining above when old, *fide* Qu. obtusiloba, imbricaria, castanea; some on both sides, *fide* Qu. palustris and rubra. Three species have long petioled leaves: Qu. tinctoria, Qu. rubra and Qu. palustris, but sometimes short petioled on young shoots. The stipules, which are membranaceous, linear or spathulate and ciliate, are falling away very early.

In winter some species can easily be recognized by the buds. Qu. tinctoria has the buds tomentose, elongated, regularly imbricated, five ridged; Qu. rubra nearly globose, smooth and shining; Qu macrocarpa oblong, tomentose and often irregularly imbricated; Qu. obtusiloba globose and tomentose; Qu. alba oblong, regularly imbricated and smooth; Qu. castanea oblong, acute, smooth and whitish; Qu. imbricaria oblong, acute and rather hairy.

The buds do not open before middle of May. The most tardy are those of Qu. imbricaria; but this decolorates its leaves the last, and keeps them, though dry, like the white oak, all the winter. All the rest generally shed the dry leaves in October and November.

The bark of the young white oak is very smooth and whitish; on the older parts it separates, like Qu. castanea, in plates. The bark of the branches of the overcup is rather corky, thick and lacerated; that of the red oak smooth and reddish brown; that of the pin oak very smooth, even on older trees; that of Qu. Prinus discolor separates in flat recurving plates, even on the smaller branches; that of black oak is on old trees very rough, rimmy and blackish—the inner bark, which is used for dying, is thick and yellow. The bark of all the oaks, but especially of the latter, is used for tanning.

The wood of nearly all these species is valuable as timber and as fuel. It is generally very tough and more coarse-grained than many other kinds of timber, and therefore used more by wagon-makers and coopers than by cabinet-makers. The black oak is much used for staves; the young white oak for hoops; the laurel oak, which splits very easy, for shingles; the post oak, the most durable of all, and the white oak, for ship building. Valuable for fuel are the black jack, the black, the laurel, the white, and the post oak; not so the red and the pin oak. The heaviest is the post oak, which, when dried, has a specific weight of 100 (100=water.) By drying the oaks lose generally 30 per cent. of their absolute weight. The specific weight varies in different parts of the same tree and in different trees of the same species; as the weight of the timber will depend upon the quality of the soil and the rapidity or slowness of growth. I have made only a few calculations on each species, and it will be necessary to repeat the same, to obtain a reliable average. I have found for Qu. macrocarpa and Q. tinctoria 92—Qu. imbricaria 86—Qu. castanea and Prinos discolor 84—Qu. alba 80—Qu. rubra 76.

For comparison, I will enumerate some other wood I have examined: Persimon 93, honey locust 91, flowering dogwood 82, mockernut 80, box elder 80, bitternut and hazelnut 79, crab apple and shellbark hickory 78, hornbeam 77, sugar maple 76, hop hornbeam, scarlet fruted thorn and panicled cornel 75, white ash, plumtree and sycamore 74, hackberry 73, slippery elm 72, Kentucky coffee tree 71, red cedar and blue ash 65, white elm, buckthorn and large-toothed aspen 64, red bud and sassafras 62,

mulberry and shrubby trefoil 60, red maple 59, pecan nut 58, prickly ash 56, burning bush 53, blatter nut 52, arbor vitæ 50, black willow 48, basswood 47, cottonwood 46, papaw 46, buckeye 42, smooth sumac 40.

In concluding this essay, I have only to say that it is very incomplete yet. The determination of the per cent. of charcoal and the examination of the Ashes is yet to be made, and will be presented to the public, perhaps, in the next volume.

ILLUSTRATIONS.

EXPLANATION OF THE PLATES.

PLATE I.

1—Quercus alba, L. White Oak.
2–3—different shaped leaves.
4—stipula, falling very early.
5—bud.
6—sterile catkin.
7—perianth of the sterile flower.
8—stamen.

PLATE I.—QUERCUS ALBA, *L.*

PLATE II.

1—Quercus obtusiloba, Michx. Post Oak.
2—bud.

PLATE II.—QUERCUS OBTUSILOBA, *Michx.*

PLATE III.

1—Quercus Prinos, var. discolor, Michx. (Quercus bicolor, Willd.) Swamp White Oak.
2-3—different shaped leaves.
4—bud.

PLATE III.—QUERCUS PRINOS, VAR. DISCOLOR, *Michx.*

PLATE IV.

1—Quercus castanea, Willd. (Quercus prinos, var. acuminata, Michx.) Yellow Chestnut Oak.
2—different shaped leaf.
3—leaf in vernation.
4—stipule.
5—bud.
6—scale of the bud.
7—sterile catkin.
8—perianth of a sterile flower.
9—stamen.

PLATE IV.—QUERCUS CASTANEA, *Willd.*

PLATE V.

1—Quercus macrocarpa, Michx. Bur Oak or Over-cup-White Oak.
2-3—different shaped leaves.
4—stipule.
5—leafless twig, with buds.
6—sterile catkin.
7—perianth of a sterile flower.
8—stamen.

PLATE V.—QUERCUS MACROCARPA, *Michx.*

PLATE VI.

1—Quercus imbricaria, Michx. Laurel or Shingle Oak—showing the fruits of two seasons.
2—leaf in vernation, with revolute margins.
3—flowering twig, with the sterile catkins at the base of the new shoot and the fruits of the precedent year on the older shoot.
4—buds.
5—perianth of a sterile flower.
6—stamen.
7—fertile flower, vertically cut.

PLATE VI.—QUERCUS IMBRICARIA, *Michx.*

PLATE VII.

1—Quercus nigra, L. Black Oak or Barren Oak.
2—different shaped leaf.

PLATE VII.—QUERCUS NIGRA, *L.*

PLATE VIII.

1—Quercus tinctoria, Bartram. Black Oak or Quercitron.
2-3—different shaped leaves.
4—stipule.
5—bud.
6—sterile flower.
7—stamen.
8—horizontal cut of the twig of the season.
9—the same, at the point where a leaf and bud is produced.

PLATE VIII.—QUERCUS TINCTORIA, *Bartram.*

PLATE IX.

1—Quercus rubra, L. Red Oak.
2–3—different shaped leaves.
4—stipule.
5—bud.
6—sterile catkin.
7—perianth of sterile flower.
8—stamen.
9—acorn and cup, vertically cut.
10—seed, vertically cut. On one side is to be seen the inflexed margin of the envelopi
membranaceous leaf.

PLATE IX.—QUERCUS RUBRA, *L.*

PLATE X.

Quercus palustris, Du Roi. Swamp Spanish or Pin Oak.

PLATE X.—QUERCUS PALUSTRIS, *Du Roi.*

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT PEORIA, ILLINOIS, DECEMBER, 1856—NOVEMBER, 1858.

By Frederick Brendel, M. D.

.—COMPARATIVE TABLE OF TEMPERATURE—1856-1857.

	Dec.	Jan.	Feb.	March.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Year.
Mean temperature	23	13.4	35.1	33 6	40.6	58.9	70.9	78.4	74.3	68.8	52.2	35.2	48.75
M. T. at 7 A. M.	18.8	7.4	30.1	26.8	34.6	52 2	64 7	71.2	68.1	62.8	45.9	29.3	42.6
M. T. at 2 P. M.	28.1	20.4	41.3	41.7	49.1	69 2	79.4	89 2	83.2	76.8	60.4	40 9	56.7
M. T. at 9 P. M.	22.2	12 5	33.8	32.2	38	55.2	68.6	74.7	71.5	66.9	50.2	35.3	46.8
M. T. of the coldest day	2	6.5	5.6	10	23.7	44 7	59	65	63.9	53.7	34 6	5.4	6.6
M. T. of the warmest day	42.9	36.1	51.2	55.2	59.8	75.6	81.5	89.4	85.6	80 7	66.1	58	89 4
Minimum	.6	.16	.2	.1	16	32	43	53.5	50	41	23	.2	.16
Maximum	49	43	59	66	73.5	90.5	91.5	100.5	97	91.5	78	63.5	100.5
Range	55	59	61	67	57.5	58.5	48.5	47	47	50.5	55	65.5	116.5
Greatest change in 24 hours r rising, *f* falling	*f*40.5	*f*37	*f*39	*f*31.5	*f*42	*r*43	*r*29	*f*35	*r*29	*r*31.5	*f*28	*f*29	*r*43
Number of days. M. T. above freezi'g p't	8	1	20	18	25	31	30	31	31	30	31	19	275
M. T. freezing point	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
M. T. below freezi'g p't	23	30	8	13	5	.....	.....	.....	.....	.....	.....	10	89
Daily minimum, not below freezing point	4	.....	14	10	14	31	30	31	31	30	29	15	239
Daily maximum, not above freezing point	19	27	4	10	2	.....	.....	.....	.....	.....	.....	6	68
Mean subterranean temp. 4 inches below surface, exposed to sunshine 3 P. M.	.....	.....	.....	.....	.....	68	74	82.8	80.6	73 4	.....	.....	.....

II.—COMPARATIVE TABLE OF CLEARNESS OF SKY, RAIN, SNOW, THUNDER STORMS, ETC.

	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Year.
No. of days. Entirely clear	3	1	2	4	.....	2	1	.....	.....	3	4	3	23
Moderately cloudy	11	16	10	14	15	15	20	24	18	12	14	9	178
Very cloudy and overcast	17	14	16	13	15	14	9	7	13	15	13	18	164
Without sunshine	7	6	9	6	5	3	.....	.....	2	2	3	7	50
With rain or snow	10	4	10	10	10	6	13	6	8	10	8	9	104
Melted snow in inches	.15	.37	.61	.36	.43	.....	.....	.....	.....	.....	.....	.32	2.24
Rain in inches	5.78	.....	4.71	3.48	.96	2 8	2.77	1.4	5.61	2.16	2.01	1.3	32.71
Thunder storms	1	.....	1	2	.....	4	7	2	4	3	.....	1	25
Thunder and lightning at a distance	.....	.....	.....	.....	.....	.....	3	3	2	.....	.....	.....	8
Mean quantity of cloudiness	55	48	60	46	59	44	40	31	44	44	53	59	49
Mean humidity of the atmosphere	75	73	84	78	70	64	68	65	72	74	79	75	73

III.—COMPARATIVE TABLE OF WIND—THREE DAILY OBSERVATIONS.

	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Year.
West	32	37	18	38	29	16	36	13	18	20	25	48	330
Southwest	8	6	10	8	4	7	6	1	12	10	3	8	81
South	7	9	23	17	23	17	32	28	16	24	9	17	224
Southeast	3	2	3	3	3	5	3	1	3	3	7	2	38
East	23	6	8	15	11	19	7	11	11	10	18	6	146
Northeast	10	8	9	7	1	10	1	21	21	10	13	2	112
North	.....	14	12	3	14	13	5	13	.....	8	15	3	100
Northwest	10	11	1	2	4	6	.....	5	12	5	3	4	63
Mean daily force of wind	2 2	1.7	1.7	1.8	2	2	1.5	1.5	1.5	1.6	1.6	2.2	1.8

I.—COMPARATIVE TABLE OF TEMPERATURE—1857–1858.

	Dec.	Jan.	Feb.	March	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Year.
Mean temperature.....	35.2	35.6	19.6	42.1	52.5	59.7	76.3	78	75.9	67.6	53.5	36.3	52.9
M. T. at 7 A. M.....	30.7	30	13.1	34.2	47	55.7	71.6	73.2	70 1	61.4	48.9	33 9	47.7
M. T. at 2 P. M	40.2	42 2	27.1	51.5	60.5	66	84.9	86.5	84.5	76.6	59.5	39.7	60.1
M T. 9 P. M.....	34.7	34.7	18.7	40.4	49.9	57.4	72.3	74 3	73 2	64 7	52	35 3	50.8
M. T. of the coldest day...	23	20.7	8.5	12 1	37.2	44.7	60.5	66.5	56	53.7	40.7	21.5	8.5
M. T. of the warmest day..	45.5	54.9	36.9	62.7	74.5	76 2	87.7	86	88.9	80.6	75.2	50	88.9
Minimum.....	19.5	13	15	4	25 2	40	51	58	50	44.5	32	11.2	15
Maximum.....	54.5	59	46.5	77	87	88.2	98.5	98.5	102	90 5	86	54.5	102
Range.....	35	46	61.5	73	62	48 2	47.5	40.5	52	46	54	43.2	117
Greatest change in 24 hours	r23.5	r34	r36	r36	r29	r25	r27	r31.5	r29	r30	f30	r20	r36
Number of days. M. T. above freezi'g p't	22	21	2	22	30	31	30	31	31	30	31	22	303
Number of days. M. T. freezing point...	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2
Number of days. M. T. below freezi'g p't	8	10	26	9	.....	.....	.....	.....	.....	.....	.....	7	60
Number of days. Daily minimum, not below freezing point...	13	9	.....	18	25	31	30	31	31	30	31	18	267
Number of days. Daily maximum not above freezing point	3	4	21	4	.....	.....	.....	.....	.....	.....	.....	3	35
Mean subterranean temp. 4 inches below surface, exposed to sunshine 3 P. M..	.....	.....	.....	.....	.....	62.7	82.3	83.2	88.9	74.8	.....	.....	.....

II.—COMPARATIVE TABLE OF CLEARNESS OF SKY, RAIN, SNOW, THUNDER STORMS, ETC.

	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Year.
No. of days. Entirely clear	1	3	2	6	.....	.....	.....	2	1	4	4	2	25
Moderately cloudy	14	9	12	10	13	9	19	9	23	20	10	3	151
Very cloudy and overcast	16	19	14	15	17	22	11	20	7	6	17	25	189
Without sunshine	5	7	5	1	4	8	2	1	1	.....	6	12	52
With rain or snow	7	6	8	7	12	18	10	15	10	6	13	16	128
Melted snow, in inches	.11	.12	1.95	.13	.....	.....	.....	.....	.....	.....	.....	.29	1.6
Rain, in inches	1.39	1.36	.....	3.02	6.25	10.64	5.95	5.85	3.24	2.96	3.24	4.56	48.46
Thunder storms	.....	.....	.....	1	8	11	8	6	.....	5	2	.....	41
Thunder and lightning at a distance	.....	.....	.....	.....	1	1	3	3	3	1	.....	.....	12
Mean quantity of cloudiness	56	49	55	42	56	70	39	53	35	30	56	81	52
Mean humidity of the atmosphere	79	73	75	67	69	77	71	74	70	72	78	82	74

III.—COMPARATIVE TABLE OF WIND--THREE DAILY OBSERVATIONS.

	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Year.
West	31	41	33	34	30	19	7	7	10	12	24	24	272
Southwest	1	4	7	2	10	5	9	3	10	10	12	5	78
South	12	17	2	18	11	19	57	31	38	42	13	2	262
Southeast	3	6	2	3	1	4	5	5	4	15	5	2	55
East	23	9	9	18	8	18	4	18	20	5	14	12	158
Northeast	5	4	10	9	11	12	8	18	2	5	18	29	131
North	14	7	11	7	12	12	.....	8	5	.....	5	2	83
Northwest	4	5	10	2	7	4	.....	3	4	1	2	14	56
Mean daily force of wind	1.7	1.8	1.8	1.9	2 2	2	1.9	1.9	1.7	2	2.1	1.5	1.9

ILLINOIS NATURAL HISTORY SOCIETY.

NATURAL HISTORY CONVENTION.

The convention met at Bloomington, at the rooms of the Normal University, Wednesday, June 30th, 1858, at 10 o'clock A. M. John B. Turner, of Jacksonville, was elected President of the convention, and Geo. P. Rex, of Pike county, elected Secretary. C. E. Hovey, president of the State Normal University, briefly stated the object had in view in calling the convention, which was to organize a State Natural History Society, for the purpose of creating an interest in the study of natural science.

[It is right honor should be given where it is due; hence we wish to record here, and with the approval of every member of the convention, too, the origin of this movement and the name of the originator. Last December, at the meeting of the State Teacher's Association, held in Decatur, a communication was received and read from Cyrus Thomas, of Carbondale, Jackson county, from which we make a few extracts, as we find it in the January number of the *Illinois Teacher:*

I will at once state the matter I feel deeply interested in, and which I desire your body to take into consideration; for I think it properly within your province to take cognizance of the subject of natural history, and also that a more opportune moment could not be found than the present meeting. By way of suggestion, I herewith present an outline of the plan I would propose and the field it is intended to embrace.

And first, the objects to which it should be limited: I propose that it should not pass the bounds of natural history; and by this I mean Zoology, Botany and Geology, using these terms in their broadest sense; for, if too much is embraced, it generally is the case that nothing is done.

Second, as to the plan: That a society be formed, to be called the "Illinois Natural History Society," whose object shall be the investigation and study of the Flora, Fauna, Geology and Mineralogy of Illinois, and the illustration of the same by gathering specimens, exchanging the same, and by publishing such meritorious works thereon as the authors may present, after the manner of the Ray Society, in England.

That the State Normal School shall be the head-quarters of the Society. That it shall first receive all the collections, and, after selecting a single suite of specimens collected, shall forward to each of the Colleges and Universities in the State (co-operating in the matter) a single suite of the same; that the remainder shall be used by the Normal School for the purpose of exchanges; that the colleges to which specimens shall be sent pay the expenses of shipping them.

That our Legislature be requested to hand over to the Normal School the geological specimens collected by Dr. Norwood; also, that they be requested to furnish to Dr. Norwood sufficient means to publish a report that will equal those of New York, and be a credit to the State and an addition to science.

That the members shall meet annually or semi-annually at the Normal School, discuss such matters connected with natural history as are most likely to advance it (avoiding metaphysical and ethnological questions) and illustrate the natural history of the State; and that they shall furnish written memoranda of their observations, since the last meeting, of species, genera, etc., determined.

That it shall be the duty of each member to make such collection of specimens as he can conveniently, and forward them to the Secretary, who shall reside at the place where the Normal School is situated.

That such works as can be collected by gift, which will be be useful in the investigation of natural history and relate thereto, be gathered by the members to form a library.

Now, this is going on the presumption that the Normal School will furnish the necessary room for the specimens of natural history, and will take charge of them; yet leaving them subject to the Society's control, with the understanding that the Society shall not permanently remove them

From what I have said the idea can be gathered; and some member of your body, far more capable than myself, can set forth the plan more fully

I hope the meeting will take hold of this matter and put it on foot.

This was the starting point. Here originated the call for the convention, and here the idea was started.]

The following resolution was offered and adopted by the convention:

Resolved, That we organize the Illinois Natural History Society, embracing the subjects of Botany, Conchology, Ornithology, Mineralogy, Anatomy, Physiology, &c., &c.

On motion of C. E. Hovey, C. D. Wilber, of Bloomington; Dr. Fred. Brendel, of Peoria; D. Wilkins, Bloomington; Chas. D. Bragdon, Chicago; and Geo. P. Rex, of Pike county, were appointed a committee to draft a constitution for the organization and government of the Natural History Society, and report at 1½ o'clock, P. M.

The convention then listened to a very interesting paper on Forest Trees, by Dr. Brendel, of Peoria. After the reading of the paper, the thanks of the convention were voted its author.

On motion, Rev. Mr. Eddy, of Bloomington, was appointed a committee to notify the inhabitants of Bloomington, by the publication of handbills, of the public meeting of the convention, to be held at University Hall, at ½ before 9 o'clock, P. M.

Convention adjourned to 1½ o'clock, P. M.

—

AFTERNOON SESSION.

The report of the committee to draft a constitution was read, accepted and the committee discharged.

The following is a copy of the constitution, as adopted by the convention:

CONSTITUTION.

Article I. This Society shall be called the Natural History Society of Illinois.

Art. II. Its field of observation and research shall comprise Geology and Mineralogy, Meteorology, Botany, Anatomy, Physiology and Zoology.

Art III. The officers of this Society shall consist of a President, nine Vice-Presidents, Treasurer, Secretary and a General Agent, to be elected annually.

ART. IV. It shall be the duty of the President to preside at all regular meetings of the Society. The Vice Presidents shall preside in his absence.

ART. V. The Treasurer shall receive all moneys of the Society, such as fees of membership, donations, &c., and shall receive and take charge of all collections of specimens belonging to the Society.

ART. VI. The Secretary shall keep a record of all proceedings of the Society; shall file all papers read before the Society; shall act as librarian, and conduct the correspondence.

ART. VII. The General Agent shall visit different portions of this and other States; make collections of specimens, attend to exchanges with various societies, establish a system of co-operation and labor to incite a general interest in the study of Natural History. He shall also receive such funds as the friends of the Society may contribute to promote its interests.

ART. VIII. All specimens shall be labeled, registered and deposited in the Museum of the State Normal University.

ART IX. Any resident of the State may become a member of the Society on the payment of one dollar, if elected by a majority of members present at any regular meeting: PROVIDED, his name shall have been proposed by a member of the Society. So much of this article as requires a vote for membership shall be inoperative for one year, and after that time in full force and effect.

ART X. Honorary members may be chosen by a majority vote of the members present at any regular meeting of the Society, and shall be entitled to all the privileges of the Society save the right to vote.

ART. XI. All regular meetings of this Society shall be held in the city of Bloomington, on the day preceding the annual examination at the Normal University.

ART. XII. This constitution may be amended or changed by a two-thirds vote of the members present at any annual meeting of the Society.

A committee to make nominations for officers was appointed, consisting of S. Wright, Geo. P. Rex and Chas. D. Bragdon.

Adjourned to meet at 5 o'clock.

—

EVENING SESSION.

Society met, pursuant to adjournment.

The committee reported the following names as nominations for officers of the Illinois Natural History Society:

J. B. Turner, Morgan county, President; John A. Kennicott, Cook county; A. R. Whitney, Lee county; Dr. S. S. Condon, Union county; Dr. Fred. Brendel, Peoria county; J. H. McChesney, Sangamon county; L. M. Cutcheon, Champaign county; C. Thomas, Jackson county; Dr. Bird, Kendall county; Dr. Adams, Morgan county, Vice-Presidents; Dr. E. R. Roe, McLean county, Treasurer; C. E. Hovey, Secretary; C. D. Wilber, General Agent.

The report was accepted, and the officers elected by acclamation.

A bill for printing was presented and ordered to be paid.

On motion, Rev. L. Taylor, D. Wilkins and C. D. Wilber were appointed a committee to report by-laws at the annual meeting.

President John B. Turner, Secretary C. E. Hovey, Treasurer E. R. Roe and D. Wilkins were appointed executive committee.

Letters were read from Geo. Vasey, Dr. John A. Kennicott, P. Atkinson and Cyrus Thomas; for which a vote of thanks was tendered by the Society. We make the following extracts from the letters read as being of general interest:

FROM GEO. VASEY, OF RINGWOOD, M'HENRY COUNTY.

I am glad to learn that arrangements are making to organize a Society of Natural History. I do not know that I can suggest any thoughts respecting the organization of such Society except such as will occur to your mind. The object will be to acquire and diffuse information on the different departments of natural science. I can, perhaps, offer a few suggestions touching the department of Botany, and others particularly interested in other branches could do the same respecting those other branches. Let such person as may have charge of this department issue and have diffused over the State (through the medium of the *Teacher*, if you please,) printed instructions as to the method of collecting and preserving plants, the time when to collect, &c. Let the persons receiving the instructions, and choosing to act in connection with the Society, keep a register of such plants as come under their observation, with the time of flowering and the period of ripening their fruit. Let the native trees of our State receive particular attention, and any other important or useful plants be particularly noticed. Then, at the close of the season, let the different collectors send on their duplicates, numbered, to the office having charge of the collections at the place of deposit, who shall supervise them, return to the collector their names and a number of other plants in exchange for his duplicates, corresponding to the quantity he has furnished. Then, by means of the information furnished by the collectors in different parts of the State, a general report could be prepared, and in course of time a full knowledge of the productions of the whole State could be acquired.

It would also be very desirable if the Society could engage the services of a competent person to visit various parts of the State to collect information and specimens with reference to a thorough exploration of the State. This is, however, a work which will require the labor of years, and would be well deserving the attention and encouragement of the State government. I would like to see such a complete survey of this State as was made of the State of New York some years since, embracing all the departments of natural science. * * * * * * * * * * I hope to see the teachers of our schools interested in the subject of natural history. It may be to them a relief during the cares of teaching—a source of useful information and rational enjoyment.

I would like, also, to hear the testimony of teachers as to the value of the text books in use, particularly in the department of Botanical science. It has long appeared to me that we have no text books of Botany adapted to our section of country. Wood's Class Book and Gray's Manual are both excellent works, especially the latter, which I prefer for accuracy and precision of description, but they embrace too wide a range of elementary works. I think an elementary Botany for this section of country should describe all the plants, say of this State or of the Northwestern States, not

regarding those which are peculiar to the sea coast or to the mountainous regions of the New England States. By this means the work would be brought into much smaller compass, and be reduced in cost so as to be within the reach of all. Then, when students have made themselves acquainted with the productions of our own soil, and wish to extend their knowledge, let them obtain more extensive works. It appears to me that we need two books on this subject; first, a Primary Botany, which should contain plain and full descriptions of a limited number of our commonest and most widely known plants, in which technical words should be gradually and sparingly introduced and explained. And these descriptions should be accompanied with wood cuts of all or part of the plants described. This would render Botany a pleasing study rather than the object of dread, which it generally is, on account of its technical terms. The next book should be adapted to more advanced scholars, structure, Physiology, Technology, classification and description of all the plants of a particular region.

FROM JOHN A. KENNICOTT, WEST NORTHFIELD.

We omit the introduction of this letter. He writes of the work of Robert Kennicott, in connection with the North Western University, and assures the convention of the co-operation of this young naturalist, and says, he begs you to bear in mind, however, the fact that this Illinois Institution (the N. W. University) has even now the third best cabinet of animals in America, and that everything is labeled, even down to the least known tribes of insects, as during six months spent at the Smithsonian Institution, and special visits for that purpose, he secured the assistance of the highest authority in each speciality. And from these specimens any amount of school collections can be arranged and named without expense to the owner.

Indeed, this idea has been brought forward by the collector, with the sanction of the officers of the University, from the commencement of the enterprise; and I think the *teachers* of the State, by encouraging their pupils to make collections and devoting a little time to the preservation of the specimens, may, in the course of a few years, establish reliable cabinets in every township, if not in every school district of the State, and perhaps make new additions to science, thus extending to the many the knowledge now confined to the few. Go on, gentlemen; you have started a great idea—one of boundless interest to the human race. The study of nature, of natural science, in some shape, is the beginning and end of all rational practical education, and intimately connected with every useful art and profession followed by man. Natural history is an easy and delightful study, and comes as natural to the young as seeing, and a very little seasonable explanation and direction in the school house and the field will make more good naturalists in the next quarter of a century than we have of good school teachers now. Although, for one, I have faith in your Association and the State

Normal University, and look to the fulfillment of your great mission all in good time. And in that and this I am with you.

FROM P. ATKINSON, CHICAGO, ILL.

* * * I have, for many years, been an ardent lover of natural science, in all its various departments, and rejoice in the formation of a society in our State for the promotion of its interests. The study of nature is of all studies the most deeply interesting. Whether we turn our attention to the animal, vegetable or mineral kingdom, we find, everywhere, ample scope for the exercise of our highest admiration and ample material for our closest investigation and deepest thought.

The development of the natural history of our own State is, to us especially, an object worthy of our most serious attention. Living, as we do, in one of the richest and most beautiful portions of the far-famed west, it is fitting that we should direct our efforts to the investigation of its natural resources. It devolves on us to become familiar with its Geology and Mineralogy, its Botany and Zoology These beautiful rolling prairies should be regarded as vast fields for scientific research, rather than mere agricultural machines, for the production of wealth.

FROM C. THOMAS, CARBONDALE, ILL.

* * * We are making a thorough examination of the Flora of this region this season. I think we will be able to add many species to Mr. Lapham's list. * * * I hope you will make an arrangement, through the Normal University, to exchange with the members in the different parts of the State. I wish, this season, to exchange shells of this section for those of the northern parts of the State, especially those from the Illinois river. If any of the members desire to make such exchange, ask them to drop me a line.

* * * * * * * * * * * *

By way of contribution, I send you a list of plants analyzed by Mr. Bartley and myself, during last summer and this spring, all of this (Jackson) county and chiefly around this town, which you will do me the kindness to hand to the meeting. This list consists of 196 plants and 19 varieties of forest trees.

NAMES OF MEMBERS ENROLLED.

Simeon Wright, H. J. Eddy, D. Wilkins, L. Taylor, Benjamin Thomas, C. B. Wilber and C. E. Hovey, Bloomington; Horace Spaulding, J. B. Turner and N. Bateman, Jacksonville; C. M. Cady and C. D. Bragdon, Chicago; Geo. Bunsen, Belleville; A. R. Shannon, Carmi; O. F. Barbour, Plainfield; Geo. P. Rex, Perry; Cyrus Thomas, Carbondale.

Adjourned to meet at 8 P. M.

Society met, pursuant to adjournment, in University Hall, where an interesting paper was read by Prof. Turner, upon Microscopic Insects, and remarks were made by Dr. Roe, of Bloomington.

At a late hour the convention adjourned to meet at 8 o'clock, A. M. to listen to a paper by C. D. Wilber, upon the Corals of Iowa.

—

July 1*st.*

Convention met at 8 o'clock, A. M., in University Hall, and listened to an interesting paper upon the Corals of Iowa, by C. D. Wilber.

The convention adjourned.

By provision of the constitution, the annual meeting will be held at the time of the next annual examination of the students at the Normal University.

MICROSCOPIC INSECTS.

Read at the inauguration of the Illinois State Natural History Society, at Bloomington, Illinois, June, 1858.

By Professor J. B. Turner, of Jacksonville.

As man advances in knowledge and civilization, he constantly approaches nearer and nearer to a more distinct apprehension of the spiritual, imponderable and impalpable. All races and ages have known of the elephant, the lion and the eagle, while only a few of the most acute and philosophic minds, even of our own age, have any conception of the innumerable host of microscopic and impalpable beings by which we are daily surrounded. Philosophy is not now mainly concerned with cataracts, earthquakes, volcanoes, tornadoes and ocean tides, but with the subtle and imponderable element or elements or forces which wake these into being and power.

Religion itself speaks not so much of the ghostly outward forms of spiritual life, rational or absurd, as of the hidden laws—the inner life of all souls and all being. Thus, man comes at last to realize that he is not only in the hands of an unseen God, who does with him whatever he pleases, but he finds himself, also, in the hands of an unseen and invisible universe of beings, powers and influences, of stupendous and infinite grandeur, omnipresence and force, but in its elements, organisms and atoms, so hidden, impalpable and invisible to vulgar sense, that the uncivilized millions even to-day, after living in the midst of and in fact by leave of these microscopic atoms and forces for 5000 years, do not even dream of their existence. But it is by searching minutely into these ultimate forms and forces of motion and of life—of good and of evil, that man has achieved his greatest glory and good in the past, and is destined to achieve still greater in the future.

In looking forward to the development of the natural history of our own State, therefore, the more gross and vulgar minds will be turned mainly to those forms of matter and of being which are most open and apparent to the gaze of all. But he who searches for the causes of things, and the true fountains of either weal or woe to man, with the soul and spirit of a true philosopher, will ever keep the eye of his mind turned in exactly the opposite direction.

I can pretend to little knowledge, and in fact can give even the tolerably intelligent no instruction as regards either the elements or the objects of natural history in our State. But I have some general idea of the course through which it must run, and the ends at which it must aim, if it would be in the highest degree useful to our people and to civilized man.

Over the coarser forms of matter, over the trees of the forest, the beasts of the field and the fowls of the air, man's conquest for both defense and for use may be said to be nearly complete. But, beneath all these, in form and size, and around them and above them, in number and power, lie an innumerable host, a countless million of millions of organic and living forms of vegetable and animal life, with which the wisest of men have as yet but just begun to scrape a mere transient acquaintance.

Geology and Mineralogy, it is true, are inviting fields in the great unexplored west, in which much may yet be developed for the advance of art and of wealth. Curious plants of varied use may here and there be found, in the realms of Botany, and probably some few animals or birds do still exist whose powers of good or evil are not duly appreciated or are wholly unknown; but it is not till we come among the insect, the microscopic and the fungi tribes and races, that we reach the fountain heads of weal or woe, of life and death to the millions of men who are to draw their daily food from these fertile plains. It is these, alone, that are in future to tax to the utmost the highest powers of the philosopher and engage the most serious attention of the patriot and the philanthropist; for, if one of the greatest benefactors of man is he who applies a bubble of steam to all its uses, the other is he who prevents a tiny insect, a spreading miasm or corroding fungi from all its mischiefs.

Who, for instance, is insensible of the vast and destructive importance of the huddling millions of the chinch bug, the immense phalanxes of the army worm, whose ravaging battalions eat down and consume the labors of man like an all devouring fire?

Then there are the sixty varieties of plant lice already known—so prolific that some single pairs will produce five millions in a single year. This is settling the prairie a little too rapidly for our agricultural uses. We prefer vacant lots to such a rapid proximity of uncongenial neighbors, for their ideas of "squatter sovereignty" conform to no true democratic or republican platform.

Lions and tigers and grizzly bears and wolves, ranging through our fields by the thousand, in the present state of war arts, would be an enemy as nothing compared to these. And yet there is good reason to think that those comparatively coarse and overgrown monsters of the insect world are infinitely less mischievous and dangerous to the well being of man than that untold and unknown host of microscopic beings that lie in size so far down the scale of life that even these could not see them without a magnifier, and much less could the human eye. Our soil and climate seem to be

peculiarly prolific in these minute forms of both vegetable and animal life.

The most careless find traces of fungi of various descriptions on almost all our fruits and grains; several that infest our wheat and corn fields, and annually diminish and sometimes almost annihilate thousands of acres of those great staples, are well known to all. The various forms of fungi that produce the rot in the grape, and some forms of blight in the pear, render those most delicious fruits almost unknown to thousands of families in the land, who, were it not for these pests, might enjoy their grateful and healthful use in all its varied forms, prepared and unprepared, as freely as they do the potato or the apple, and with far less manual labor and cost of production than the former regions. The fungi in the grape can be easily traced by the aid of a powerful microscope, and it is to be hoped that our naturalists will soon now be able to locate or describe it, and define its distinctive origin and processes of reproduction and growth.

The tiny microscopic insect, also, that exists on the bark of the pear, oftentimes by millions on a single branch, (of which I wrote some general description for the *Horticulturist*, some years since,) Dr. Fitch, of New York, has now got a safe and sure hold of, and will, as he writes me, describe it so far as now known in his next volume of reports on insects to the New York Legislature. (This pest, I perceive by the papers, has recently appeared in South Carolina, where it was never known till this year.—*Prairie Farmer, June 24th.*) But there are only one or two obvious examples of the mischief which we receive from these living atoms.

One can hardly resist the conclusion, as he looks upon the varied forms of disease and discomfort in plants, in animals and in men, that there is an innumerable host of them still unknown, and a vast number of which so very little is known, that our knowledge practically amounts to little more than a mere technical verbiage.

The earth, the water and the air seem full of these teeming myriads, both of animal and vegetable life—too minute, oftentimes, for our keenest senses, too multitudinous and rapacious for all our known arts of either defense or destruction. That they ravage and destroy more of the works of man now than all other causes is quite probable, and that they are destined in future to do much toward inciting him to perfect his means and powers of observation, his arts and his skill; much toward the highest and fullest and keenest development of all his faculties of research and analysis, is still more certain.

If time would allow us to pass into the field of zoophite and microscopic forms of life in the ocean depths, we should then find that these minute beings not only populate and in some sense rule and devastate the continents, but that they also absolutely create them—re-building and upheaving our lands upon their coral reefs from the bottom of the sea, and fabricating the very iron with which we plow our fields and prosecute our varied industrial arts;

so that, in all fairness, they seem to have about as good a right to live in the world as the rest of us, if we could only bring them into our Normal schools, and teach them to live in peace. Thus, these living atoms really make for man his continents and his arts, before he is born, and in turn control his destiny, ravage and defeat his labor while he lives, and eat up his body when he is laid in the grave. But we are more nearly and immediately concerned with those races and species that people and ravage our already extant continents and lands.

From whence spring these minute beings? Where do they go during the apparent long years of their absence, and how do they get back to their old haunts? How do they live during those years when unfavorable heats or colds, rains or drouths seem utterly to destroy them? How do they severally propagate their species? On what do they feed? What several species prey upon one another? What other forms of matter are hostile or offensive or destructive to them? These are questions of far greater and more curious interest to science—of far greater use and hope to man—more intensely disciplinary to his mental as well as physical faculties and senses than similar questions about the grosser and more palpable forms of matter.

In respect, also, to those grosser forms of vegetable and animal life, it seems to me that our research should in future aim more directly at practical utility than in the past.

We are quite too content with mere description of forms and names, sometimes, without pushing our inquiries into the causes, relations and uses, and evils of things. A true philosophy, as it seems to me, would never let us rest content till we had truly and fully learned not the bare name and form, but the final cause and use, the good and evil, the full relation of each thing, object and being, to all other beings, and especially to man—to all his interests, enterprises, arts, uses and developments, physical, mental and moral.

We need not simply to christen all these things—not simply to name the beasts, but also to rule over them, as did our great father Adam; and, also, all other forms of matter. And we cannot do this till we know minutely their history, habits and relations to other things and beings.

The grand end to be aimed at, in reference to most forms of fungi and parasites of all sorts, is their prevention or destruction. But a vast amount of minute antecedent knowledge is needed before we can hope to say, "thus far and no farther," even to one single race or tribe, much more to the vast myriad of races and tribes.

For example, after some years of incessant trial of a great variety of things, I found that spirits of turpentine applied moderately to the trunk of the pear tree would exterminate this minute pear insect; and, when Dr. Fitch gives him his proper name, he will be christened and doomed at one and the same time. But this was all charlatanry, proceeding without any principle or knowledge as

a safe and sure guide. What we need is such knowledge widely diffused among our people. What vast good Dr. Fitch has done in New York, and Mr. Harris in Massachusetts, by their researches in this line. Their efforts have excited a deep interest in the minds of the learned and philosophic, not only in this country, but in England and in France. The English journals have commented with great interest on their theme and their success, and the Imperial Society of France have honored Dr. Fitch with their medal, while the celebrated Vattemare manifests his usual interest in the circulation of his works in France.

What a glorious field is open here to some of our western young men. Who will enter it? We need here a score of the best minds in the country, under some central head, like this society, or the Normal University, provided with the best microscopes and other needed apparatus for collecting and examining a cabinet and specimens; and the whole country marshaled under them, much as Lieut. Maury proposes to organize on the science of meteorology.

Who will lead and marshal us in this great and good enterprise? We need a man who has the eyes of an Argus, the brain of a Newton, and the patience of a Franklin, the patriotism of Washington, and the energy of a Napoleon. And if we could take all these men and melt them into one great man, supremely great, supremely good, he would here find a field for work in the single State of Illinois, taxing all his mind and manhood, and, in the end, if he completed his work, he would enroll himself above all these, in mind and fame, and stand at least upon their level, in beneficence and good done to man. For here, pre-eminently, it is little causes that work mighty results, and these tiny creatures have undoubtedly not only sent insatiate hunger and gaunt famine through the densely populated lands, but have also bred civil wars and discords, thrown whole nations into anarchy or conflict, and deluged the earth in blood. And the Hessian fly is at this moment as likely to overturn the throne of Napoleon, perhaps more likely than any other known or anticipated cause, and involve all Europe in a correlative and consequent war of ranks and races. Only once let France cry for bread, and no human foresight can tell what is to come to the rest of the world. These pursuits, therefore, while of confessed utility to agriculture, are by no means so utterly deficient in dignity and importance even to the statesman and philanthropist, as many of the unthinking may perhaps suppose.

But I intended also to say a word in the same line in regard to meteorology, by way of approving and seconding Lieut. Maury's magnificent plans in that department of research. And though perhaps not embraced, except incidentally, in the objects of our research, I trust I shall be pardoned for the allusion.

What a glorious thing is the sky! How like the very face of God himself! The wind, the calm, the fog, the heat, the cold, sunshine, rain and snow, storm clouds, tornadoes, and thunder showers, rainbows and Auroras, their periodic seasons, spring, summer,

autumn, winter, their eccentric and devastating sweep and whirl over all the lands and realms, bringing joy or woe to all the million of men! Who can, nay rather who among us will grapple with these mighty forces and laws of nature and of God? How deeply this science, too, that lies at quite the other extreme of the scale, (the point of highest apparent grandeur,) affects all our interests as men!

To our young men of America, what a world of enterprise, of thought, of research, of true progress and sublime grandeur, on all hands, is open! When I think of these things I cannot but regret that I am so soon to become a poor sightless old man, unable essentially to aid, however good the will. I regret still more that I have not done more in the past. Will they not one and all arise and gird themselves to the mighty task, the glorious work before them? And shall not we of this infant association, we who love this noble State Institution, do all in our power to aid and encourage all, of whatever age or class, to enlist heart and soul in these great works of good to our country and good to man, to which it has been the object of this paper simply to direct our attention for a brief passing moment.

We, the people of the State, look to this institution, this Normal University, and this scientific association, to arouse as well as instruct the masses of the Great West, and turn their millions of eyes toward the solution of these mighty mysteries of matter and of nature, toward the ultimate conquest of mind over these elemental atoms, these moving forces of earthly destiny.

And if there be one great unit element or force which (as phenomenal light, heat, electricity, galvanism, polarity, or other outward name or form) imparts all motion and all life, grasping with equal ease and control worlds, suns, systems, atoms and elements, and rolling them through their career of seasons and years, generating as they go all forms of life, beauty and being, ever producing in its sublime circuits all products, all changes and all destinies in all worlds, and ever evolving both the fabled harmony and the real glory of the spheres, let us aid also in this final demonstration the achievement of this ultimate generalization of all science in all worlds.

This Normal University we regard as the only daughter of our Prairie State, fresh blooming and bridal, having received the dowry of her mother, and awaiting only the patrimony from her great father, the Union, to give her an outfit and an estate worthy of her rank and her aim. As members of the Illinois Association of Science, we have here this day assembled to inaugurate the nuptials of this young, blooming, and dowered bride. We wed her not to names and forms and shams, but we wed her to *Nature*, nature's science and nature's truth, to God's light, God's laws and God's love, predicting for ourselves, and imploring for her, through long ages to come, a most glorious progeny of all sciences, all arts, and all industries, all moralities and humanities to ennoble and bless and adorn our native prairie home. We this day pronounce them

to be man and wife, and what God hath joined together let no man put asunder.

Citizens of Bloomington, we commend again this young bride to your special interest and care. Since the speaker and one of your citizens (Mr. Fell) in 1851 first stood on an adjacent tower, and elected in hope, and in prospect as it has proved, the site of your present university, great changes have come over the public mind, as well as over your town. You have done noble things, and we still expect things of you yet more noble. Remember that "a city set upon a hill cannot be hid," and let your motto ever be "*excelsior, excelsior!*" both for yourselves and the institution in your midst.

FORESTS AND FOREST TREES.

Read before the Natural History Society, at Bloomington, June 30, 1858,

By Dr. Frederick Brendel, of Peoria.

The woods are among the most prominent essentials which constitute the character of a country, besides the distribution of land and water and the unevenness of the surface of the earth. But not alone the physiognomy of a country depends a good deal upon the presence or the lack of forest trees, and the quality and quantity of them. The same have the greatest influence upon the character of the inhabitants, upon their way of life, their civilization, their industry, their customs, their (contemplations?) habits of thought, their poetry.

Our ancestors carried the hunting spear in the woodlands of Northern Europe, whilst the nomadic tribes in Middle Asia tended their herds, wandering through vast prairies restless and homeless. The springy groves of ancient Greece created many an immortal song, and the Phœnicians would never have sailed to the far west, had not the mountains of Lebanon supplied them with gallant masts. The cedars of Lebanon are gone, the shore is barren, the population reduced in quantity and quality. The groves of Greece are gone, and the descendants of a glorious nation have become half barbarous upon a dry, barren soil. The Tartars are homeless as before. Teutonic tribes all over North-western Europe, once barbarous, have become civilized in the shade of their oaks, and have grown up to wealthy and mighty nations. I would not say that the change of vegetation and climate alone produces such effects, but surely it is one of the co-operating causes.

The woodlands are distributed all over the surface of the earth, through the tropics as well as the temperate zones; but extensive tracts of land are quite destitute of trees. The great desert Sahara, in Africa, the country north of the Black Sea, in Europe, the Arabian, the Persian, the Indian, and other Tartarian deserts, the desert of Cobi, all in Asia, the great plains on the Missouri, the plateaux of North Mexico, the *llannos* of the Orinoco and the *pampas* of the Plata, in South America, are among the largest.

Toward the poles, the growth of timber is checked by the low temperature of the summer. The northern boundaries of the woodlands do not follow the isothermal lines. Where the latter bear southward in the middle part of the North American continent, the former reaches farther north. From Labrador, where the trees do not grow farther north than 58 deg., the line ascends north-westward to 69 deg. on the Coppermine river, where Franklin found the white spruce. This shows that it is not the mean temperature of the year which determines the growth of plants, but the mean of the summer temperature, which is higher in the interior of the continents than on the coasts. It is a fact, that each plant begins to grow at a certain degree of temperature. It wants a summer of warmth for its development, and perishes at a certain degree of low temperature. These principles regulate the distribution of plants from the equatorial to the polar regions, as well as in a vertical direction in the high mountains.

Last year (1857) I observed on the currant, which had displayed its leaves after the warm days of the latter part of March and of the fore part of April, that, afterward, when the temperature became very low in the middle part of April, reaching only once 58 deg., and descending to 16 deg., the further development stopped for a while, but was not destroyed. To ascertain the necessary sum of temperatures for the different species, is one of the principal problems to be solved by the botanical geography, in connection with meteorology, and of equal importance to agriculture, as the knowledge of the chemical references (?) of the different cultivated plants to the soil. But it may be mentioned that the now adopted system of meteorological observations must be altered entirely, to be useful in (solving?) botanical and agricultural questions. However, it would carry us too far from our subject to detail this matter. Perhaps I may have an appropriate opportunity to express my opinion about it.

I confine myself to acknowledge the fact, that, like the rest of the vegetative world, forest trees are distributed all over the earth's surface, according to the quality of the soil and the climate. J. F. Schoun, a Danish botanist, establishes four principal zones of forest vegetation: 1st, the region of coniferæ; 2d, the region of the amentacæ; 3d, the region of manifold mixed forests; and 4th, the region of rigid leaved trees.

Meyeas—classification is more detailed and corresponding to the elevation above the level of the sea and the temperature.

1st. In the equatorial zone, the region of palms and bananas, 0-1900 feet high, with a temperature of 81-86 deg. F.

2d. In the tropic zone, the region of fern trees and ficus, 1900-3800 feet high, by 74 deg. F.

3d. In the sub-tropical zone, in the region of myrtles and laurels, 3800-5700 feet high, 68 deg., 70 deg. F.

4th. In the warmer temperate zone, the region of evergreen dicotyledonous trees, 5700-7600 feet high, 62, 5 deg. F.

5th. In the colder temperate zone, the region of deciduous dicotyledonous trees, 7600-9500 feet high, by 58 deg. F.

6th. In the sub-arctic zone, the region of Abietineæ, 9500-11600 feet high, by 52 deg. F.

7th. In the Arctic zone, the region of Alpine shrubs, 11400-13300 feet high, by 44 deg. 5 min. F.

8th. In the Polar zone, the region of Alpine plants, 13300-15200 feet high, by 37 deg. 5 min. to 39 deg. 5 min. F.

It will be evident that these lines are not so exclusive that one or the other species of one region should not pass over and mingle with the trees of the neighboring region. For instance, the pine often grows together with the beech; the oaks with deciduous leaves with the evergreen ones. Moreover, one species pushes away the other: as observed in many cases in the forests in Europe. A large forest near Munich, in Bavaria, which consisted once of oak, beech, birch and hazel-nut, to-day are to be found only coniferous trees. The greater part of the Hartz mountains consisted two centuries ago of trees with caducous leaves, particularly the oak and beech, remains of which are yet to be found in the peat marshes. Now, the pine and spruce prevail, and spread about more and more. In the meantime, we observe the contrary in Denmark, where now the beech occupies the whole country, and the pine does not exist, except in the form of the trunks buried in the peat marshes, mixed with oak, birch, willow and aspen, but no beech. It is a well-known fact, that for the last five centuries no coniferæ have grown wild in that country.

C. Vaupell has published a very interesting paper on this matter, in Am. L. So. Nat., 1857. After a minute examination of the trunks, leaves and fruits to be found in the peat marshes of Denmark, he makes the following remarks:

"In the ancient forests of Denmark have been mixed coniferous, and trees with deciduous leaves. The most common trees have been the birch; next came the oak and the Scotch fir; the aspen, willow, hazel-nut, elm and maple occurred, but not so frequently; the alder, the birch, and a species of fir, grow in the swamps.

"When we compare these ancient forests with those of our days, we find that they have been generally destitute of beech trees, which now have become the predominant trees of the Danish forests.

"To explain this fact, different opinions have been advanced. It scarcely deserves notice that in the last century it was believed the fir never grew in that country, and that the trunks, together with those of other species, had been transported thither by a deluge."

In our times, the disappearance of the fir, and the substitution of the beech, has been attributed to a change of the climate. It was supposed that the climate of Denmark became milder, and that the forest trees of ancient times agreed to the rudeness of the

former climates; but the beech stands the cold climate better than the oak which occurs in the peat marshes together with the fir. The beech reaches the same altitude in Norway as the oak, and ascends in the Alps about six hundred feet higher.

Durean de la Malle, a French writer, supposes that the system of alternate crops is founded in nature, and supported by the durability of the germinative faculties of the seeds. "The forest of Perche," (a province in France,) says he, "consists of oak and beech, with a few chestnut, elm and ash. As soon as one part of the forest is cut, the ground becomes covered by herbaceous plants and shrubs; then appear trees with white soft wood—the birch and the aspen, but no oak or beech. When these trees are thirty years old they are felled, but succeeded by the same species twice yet; and not until the lapse of at least ninety years do the beech and oak regain their old domain.

"The growth of one species during a long time takes from the soil certain nutritive substances, and leaves untouched others which suit a second species; so the latter gains the ground. In France, the oak gives place to the beech, which also gains more and more ground in England."

Vaupell does not agree with this explanation. He tries to find another one by the influence of the light and humidity, and the quantity of the same, which is necessary to each species. The forests in the interior of Futland, which are composed of different species, present to him the arguments. "The birch is displaced by the beech, wherever the soil is favorable to the latter. The birch, with its gracile quivering foliage, is fond of light; the beech, vaulting a massy dome of leaves, throws a thick shade around. The birch which grows in its neighborhood rises higher and higher to escape the inconvenient neighbor, but in vain. The beech, much mightier, stifles his victim, the seeds of which at last are not able to germinate for want of sunlight. The same takes places with the fir. Although the oak, with wide-spreading branches and thick foliage, is likewise an antagonist of the birch and fir, it has to give place to the beech when both grow together, only the strife is more protracted. So the forests of fir and birch become bye and bye forests of oak, and finally of beech; and it is not that the soil is exhausted, but on the contrary improved."

This explanation is indeed very ingenious, and shows a sharp observation; but how does it agree with the gradual dislodgment of the beech by the fir in the German forests? Considering these facts, we learn that things must never be viewed from one side alone. Apparently there are various causes which co-operate and produce different effects, according to the various combinations of causes.

The woodlands of the United States belong to three of the above mentioned regions—the evergreens in the Southern States, the woods with deciduous leaves in the Middle and Western

States, the pine forests in the north and along the Allegheny mountains.

The woodland of Illinois, before the country was settled, covered one-third of the whole area, prevailing in the south, and following the river bottoms in the middle and northern part, and contained nearly exclusively trees with deciduous leaves. The whole pine family, which comprises 33 genera, with 342 species, is represented in Illinois by only three species, viz: the white cedar, the red cedar and the bald cypress.

Endlicher, in his Synopsis Coniferarum, 1847, enumerates twelve American genera, which comprise, together with the six New Mexican species described by Engelmann, and a few more by the other botanists, 123 (?) species. Of these, there grow in America, (excluding Mexico, with 31 proper species,) 66. Twenty-nine belong to the north-west coast and the Rocky mountains; six to New Mexico; three to the Southern States; twenty others in the limits of Gray's Flora of the Northern States, partly exceeding them, particularly in British America, which has three proper species and three that are doubtful. Of these species, which are sparingly found in Illinois, the red cedar extends northward to the 50th deg., southward to the Gulf of Mexico and the West Indian Islands, westward beyond the Rocky mountains. Fremont found it on the Platte river, and Emery found two species of juniperus west of the Rio Grande, which are probably varieties of our species.

The white cedar (thuya occidentalis) reaches southward to the 32d deg. The bald cypress, (taxodium distychum, Pursh.,) one of the largest trees of this continent, whose principal habitation is Mexico and Louisiana, ascends on the Mississippi to the 43d deg. north latitude. From the north perhaps a fourth species comes within our limits—the American yew or ground hemlock, (taxus canadensis, Willd.) The bulk of our woods is composed of more than sixty species of trees with deciduous leaves, among which we count about forty of large size. The constituents of the copses are about forty different shrubs. Compared with the European woodlands, this is a large proportion. In all Europe, north of the Alps, we count scarcely more than thirty different species of large forest trees.

The giants of the Illinois forests are the sycamore, the cottonwood, the white elm, all most common in the river bottoms. The oak, especially the white and burr oak, the sugar maple, the black walnut, the pecan nut, the shell-bark hickory, the honey locust—these and many smaller trees belong to 25 families and 43 genera.

The old family of catkin trees, which is now divided into several new families, is represented by nine genera, excluding here the hazel-nut, which is a mere shrub, of which the richest is the genus quercus. It is very difficult to give the exact number of the now known species of this widely distributed genus, because many species established by botanists, who are fond of making

new species, have been rejected by others who prefer to reduce to subordinate divisions resembling species as varieties of one.

Many species from less known countries are, for want of sufficient observation, imperfectly described. In the beginning of this century, the most complete universal Flora was that of Persoon, who enumerates about 20,000 Phanargames, which number grew up in the meantime to more than 100,000. The number of his oaks is eighty-two, of which twenty-eight belong to Europe and the Mediterranean region, two to Australasia, six to Japan, fifteen to Mexico and thirty-one to the United States. In the meantime, Humboldt and Bonpland found, during five years' travel in South America and Mexico, twenty-four species—all new ones except one, and all Mexican except three species of New Grenada. Bentham described four new species from Central America, one Mexican and one Californian. Curtis, a new species in the southern United States, (Q. Georgiana.) Torrey, a new western species, (Q. Emoryi.) Other botanists, 48 species growing in Spain, Northern Africa, Asia Minor, China, Java, Japan. Endlicher enumerates (1847) 197 species. The latest essay on the genus Quercus has been published by F. Gay. He proposes large reductions in the number of species, and at the same time a new distribution of sub-genera and sections. He divides the genus into two sub-genera—Esculus with membranous deciduous leaves, and Ilex with coriaceous leaves which persist the second or third year. The subgenus Esculus he divides in five sections—three, Robur, Elæobilanus, Gallifera, with annual maturation; two, Erythrobalanus and Cersis, with biennial maturation. The section Robur contains only eight species—two European: Q. toza and Q. robur, in which he unites as varieties more than a dozen described species—two Orientals and four North American; Q. alba, the White Oak; Q. obtusiloba, Willd., the Post Oak; Q. cyrata, Walt., the Swamp Post Oak of the Southern states; and Q. prinoides, the Chestnut Oak, comprising Q. prinus, Q. bicolor, Q. montana, Q. castanea, and Q. prinoides of Willdenow, which Michaux had already cautiously subjoined as varieties to Q. prinus. Only in the second edition of the Botany of the Northern States. A. Gray reduced this species to three—joining Q. montana and Q. discolor with Q. prinus as varieties, and I believe so will be done with the two others. The form of the leaves is very variable in most of the oaks, and should not be used as a diagnostic. That childish way in which zoologists formerly fabricated species out of mere skins is abandoned, since anatomy and embryology regained their legitimate ground in that branch of science. Since zoologists began to study the animals in their successive stages of life, from the embryonic to the adult state—to compare statements, and take notice of biological and climatical moments—a crowd of weak species have been stricken from the docket entirely, or degraded to the rank of varieties. The same way has to be followed in establishing botanical species. What benefit is it to science, when a closet reasoner in

the old country works up fascicles of plants collected in our woods and prairies by a friend, who neglected to notice the nature of the soil and the season the individual plant was collected. When that closet-reasoner, taking in consideration the hairiness or smoothness of the surface of two individual plants, proposes two species, not knowing that one grew up in the shade and the other exposed to sunlight, acts he more reasonable than a zoologist, who, going to the fur market, selects a dozen different colored racoon skins, with ears and tails differing in length a few inches, and then is quite happy to enrich science with a dozen more of names? In that way an Augean stable has been established, which to cleanse we need many a Hercules.

Right in the next section we meet a suspected species—Q. Oliviæformis, Michx.—which is only a variety of Q. Macrocarpa, (Burr Oak,) a single representative of the section Elæobalanus. The section Gallifera contains no American species, but few Spanish and Oriental ones. The section Erythrobalanus is entirely North American. Gay enumerates fourteen species: the Willow Oak, Q. phellos; the Swamp Willow Oak, (by Nuttall noticed as a doubtful species;) the Shingle Oak, Q. imbricaria, Michx.; the Bartram Oak, Q. heterophylla, Michx. fl., founded upon a single individual near Philadelphia, which does not exist any more, and apparently a hybrid between Q. phellos (the Willow Oak) and Q. tinctoria, (the Black or Yellow bark Oak;) the Black Jack, (Q. nigra;) the Water Oak, (Q. aquatica;) the Black Scrub Oak, (Q. ilicifolia, Wang.;) the Red Oak, (Q. rubra;) the Scarlet Oak, (Q. coccinea, Wang.) The Q. borealis, Mich. ft., neither Nuttall, Pursh nor A. Gray do mention it. Probably a species of British North America, or a variety of another one. The Spanish Oak, (Q. falcata, Michx.;) the Quercitron, (Q. tinctoria, Bartram;) the Pin Oak, (Q. palustris, Michx.,) and the Q. catebaci, Michx., a southern tree.

The section Cerris contains nine species, partly European and Oriental, partly Chinese. The subgenus ilex is divided in four sections—Suber cypriotes, Heterophellos and Conifera, of which only the first is represented in North America by the Live Oak, Q. virens and seventy-seven others enumerated, by Endlicher, but mostly very doubtful, and rejected by Gay altogether. To those probably the Duke Paul, of Wurtemburg, the well known traveler, refers, when he says to Wagner, another well known traveler, that he could name more than one hundred and twenty different species of Oak, which grow in North America, including the North Mexican mountains. I hope he will not do it.

I have never seen the Beech growing in this State; however, I find it in Lapham's catalogue. May be it surpasses our northern boundaries from Wisconsin, or the Wabash, from Indiana. [Here Dr. B. was interrupted by Dr. Roe, of Bloomington, who said he had seen the Beech among the wood piled up at the railroad station, and he had no doubt it could be found within twenty miles of

Bloomington.] May be it is wandering farther westward, usurping the ground which is now in possession of other genera. Its present boundaries are noteworthy for future obsesvations.

The genus Fagus is a small one—only ten species are known: one in Europe, one in North America and one in Japan. The rest are in the Southern Hemisphere—four in New Zealand and three from Chili to Terra del Fuego.

The genus Carpinus is represented in our woods and in America at large by one species: C. Americana. Two exist in Europe and three have newly been described in Japan, a country which seems to be very rich in valuable forest trees.

Of the genus Ostrya are known only two species, one in Europe and one in North America: our Hop Hornbean.

Twenty-eight different Birch are known, of which ten occur in the northern part of our continent, but only one in Illinois: the Red Birch (Betula nigra.) No Alder is mentioned in Lapham's catalogue of Illinois plants, but as I find it in his catalogue of Wisconsin plants, Alnus serulata, A. A., and the same occurs in Kentucky, it might be sought for within the limits of Illinois.

Among the Willows which occur in this part of the Western States, several attain the size of trees—how many species has not yet been ascertained. The most common in the vicinity of Peoria is the Black Willow, (S. nigra, Marsh.) The most common Poplar is the Cottonwood. I suppose there was, and is yet, perhaps, somewhat of confusion in regard to this tree. In Asa Gray's Botany we find two species commonly called Cottonwood, P. monilifera, Ait., the same as P. cævigata, Willd., P. canadensis, Michx., and P. angulata, Ait., the same as P. angulosa, Michx., and P. angulisans, of which Nuttall speaks in his Travels in Arkansas Territory, not in his Genera, where he says (page 70): "Populus angulisans, the Cottonwood of greater magnitude than any other tree in this country, with the wood yellowish like that of the Tulip tree. The smaller White Poplar (P. monilifera) is never so large as the preceding, commonly growing in groves like the Willows and presenting a bark, which is white and even." Edwin James, in Long's Expedition to the Rocky Mountains, remarks, that the Populus Angulata, of Pursh, is the most common in the country of the Mississippi, and, indeed, almost the only one which occurs, and that it is as widely distributed as any indigenous to North America, extending at least from Canada to Louisiana, and from the Atlantic to the lower part of the Columbia river. The differences between the two species, as described in Gray's Manual and in other botanical works, are so slight, that I think one can be taken for the other. So thought Lapham, it seems to me, when he enumerated, in his catalogue, only one: the Populus angulata, Ait., although Gray locates P. monilifera, "New England to Illinois—specially westward." Probably Lapham is right.

The Sycamore (Platannus occidentalis) is decidedly the largest forest tree east of the Rocky Mountains. Michaux measured one

near Marietta, Ohio, and found it fifteen feet and seven inches in diameter, at twenty feet from the ground. They often rise to an elevation of one hundred and fifty feet, (see Long's Expedition, by Fames.) It is exceeded only by the giants of the Pine family, in Oregon and California, Sequoia Gigantea End, three hundred feet high, and another one which was measured by Lewis and Clark, six feet from the base, forty-two feet in circumference. This latter Fir and five other Firs, which are popularly described in Lewis and Clark's Travels, to the source of the Missouri river, and across the American Continent to the Pacific Ocean, provide Rafinesque with Botanical names. The name Rafinesque renders any plant suspicious that is attached to it, because this Botanist created so many species which can never be found by any Botanist in any other part of the world. The Walnut family is represented in our woods by two genera. The Walnut with two species and the Hickory with six species. The Pecan-nut, (Carya oliræfornus, Nutt.,) which Lapham locates in the southern part of the State, occurs at least as far north as Peoria.

The family of the Urlicaceæ is composed of five tribes: the Elm, the Breadfruit, the Mulberry, the Nettle and the Hemp tribe. The four first tribes contain trees, but only the Elm and Mulberry tribes contain trees which belong to our Flora. The Elm tribe is represented by the White Elm, (Ulmus Americana,) the Slippery Elm, (Ulmus fulva,) the Cork Elm (U. racemosa, Thomas,) and the Winged Elm, (Ulmus alata, Michx.,) a Southern species. The Hackberry (Celtis occidentalis) is the only representative of this genus in this country. The Celtis crassifolia, Lam.,) certainly, and the C. integrifolia, Nuttall, probably being varieties. The Mulberry (Morus rubra) occurs as far north as Peoria, but does not surpass our Northern boundary.

The Spice bush (Benzoni odoriferum, Rees,) being a shrub, we find only one tree of the Laurel family in our forests—the Sassafras.

The Ash forms a genus with very variable species, out of which, in Europe, near twenty North American species have been created and enumerated which cannot be found in America; and even of those which are considered as true species, some are suspicious to me; for instance, the Red Ash (F. pubescens, Walt.,) and the Green Ash, (F. viridis, Michx.) Perhaps there might be varieties of the White Ash, (F. Americana.) Besides them, occur, in Illinois, the Blue Ash, (F. quadrangulata, Michx.) I must mention here a southern shrub, Forestiera ligustrina, Poir., in Lapham's catalogue, and Borya ligustrina, Willd., is one and the same plant, and that another Forestiera acuminata, Poir., has been noticed on the Ohio banks, near Shawneetown, by Nuttall, Travels into the Arkansas Territory. Brumella lanuginosa, Pers., in the southern part of our State, is a small tree, of the Sappodilla family. The Persimmon, (Diospryros Virginiana,) not rare in the South, I never saw in a wild state as far north as Peoria.

Of the Holly family, we find two species in Illinois: Ilex decidua and verticillata, the Black Alder or Waterberry; but only the latter attains the size of a small tree. I have never seen it around Peoria, nor the Flowering Dogwood, (Cornus Florida, or the Liquidamber styraciflua or the sour gum, N. multiflora, none of which are rare in the South.

The largest tree of the Rose family is the wild Black Cherry, Cerasus serotina; the others, the wild Plum, the Crab Apple, the Mountain Ash, the Juneberry, the Hawthorn, of which occur three species, are only small trees. Leguminoseæ forms one of the largest families, embracing more than four thousand species. There are many trees amongst them, the elegant, pinnated foliage of which gives to a country a singular charm, missed in the European forests. The trees of this family are peculiar to the Torrid zone, but on our continent sending a few representatives northward.

The Honey Locust (Gleditcha tricanthus) is the largest of those which are to be found in Illinois. It is common yet as far north as Peoria, and has been found in southern Wisconsin. A smaller species, G. monosperma, Waltr., occurs in the South. Lapham remarks, in his catalogue, that no other Botanist except Michaux has found it in Illinois, but Nutall did, (Travels into the Arkansas Territory, page 40.) Gymnoclaudus canadensis, the beautiful Kentucky Coffee tree, of nearly the same size as the Honey Locust, has a large geographical extension, as well as the Red Bud, (Cercis canadensis.) Both of them being indicated to grow in Canada, I wonder to miss them in Lapham's catalogue of Wisconsin plants. The common Locust tree (Robinia pseudacacia) is cultivated in the north, but probably wild in the southern portion of this State. The Maples are amongst our finest forest trees. Out of fifty-eight known species of the two genera, sixteen are American, four of which we have in Illinois: The Sugar Maple, Acer saccharinum, the Silver Maple, A. dasycarpum, Ehrh.; the Red Maple, A. rubrum, and the Box Elder, (Negundo accroides, Mænch.) Two Horse Chestnuts are to be found: Esculus glabra, Willd., and Flava, Ait. The Basswood, Tilia Americana, is common, but mostly single, not as I have seen it in the northern part of Iowa, forming continuous parts of the forest. A small but very pleasing tree is the Papaw, (Asimina triloba, Dunal;) it is very common but not always fruiting around Peoria. It does not extend so far north as Wisconsin.

The Umbrella tree, Magnolia and Tulip tree, (Liriodendron tulipifera,) are included in Lapham's catalogue, as growing in South Illinois, probably in the most southern part, as neither of them came under my observation in St. Clair county, where I herborized one year.

Besides the above mentioned large and small trees, many others occur, together with numerous shrubs. Many have yet to be studied in regard to their systematical arrangement as well as their

geographical distribution. Many species are confined to the southern part only of Illinois. Many do not reach Wisconsin. It would be very interesting to ascertain the northern or southern line of each, but it would be a difficult task for a single man. As the popular names of most of the forest trees are known, I believe, to everybody, he need not be a Botanist to contribute in this line valuable materials, and assist in preparing a paper on our forest trees for the next volume of the Transactions of the State Agricultural Society. I invite the gentlemen present to favor me with any interesting notice which may come within their reach. I intend to elaborate this matter in detail, regarding the systematical arrangement, the geographical distribution, the physiological, chemical and mechanical properties of the subjects. I will ascertain as much as possible the specific weight of the different timber and the per cent. of charcoal and ashes, and the constituent parts of the latter; but to make this sketch a well finished treatise, I want, and once more ask, for your kind assistance.

ILLINOIS NATURAL HISTORY SOCIETY.

BLOOMINGTON, ILLINOIS, *June* 20, 1859.

The Illinois Natural History Society met in the rooms of the Normal School, according to adjournment.

President Turner being absent, Prof. J. H. McChesney, Vice-President, was called to the chair.

On motion, the President appointed the following committees:

Dr. E. R. Roe, R. H. Halder and C. Thomas, Committee on the Constitution.

C. D. Wilber, B. G. Roots, Geo. Rex, C. Thomas, Chas. D. Bragdon, Dr. G. Vasey and S. Wright, Committee on Officers.

Meeting adjourned until 5 P. M.

Five o'clock, P. M.

Society met, pursuant to adjournment.

Minutes of last meeting read and approved.

The Committees reported as follows:

The Committee on the Constitution reported the following amendments; which were adopted by a vote of two-thirds:

CONSTITUTION.

ARTICLE I. This Society shall be called the Natural History Society of Illinois.

ART. II. Its field of observation and research shall comprise Geology, Mineralogy, Meteorology, Botany, Zoology, Comparative Anatomy and Animal and Vegetable Physiology.

ART. III. The officers of this Society shall consist of a President, nine Vice-Presidents, Treasurer, Secretary, Superintendent, Curator and Executive Committee, to be elected annually.

ART. IV. It shall be the duty of the President to preside at all regular meetings of the Society. In his absence one of the Vice-Presidents shall preside.

ART. V. The Treasurer shall receive all moneys of the Society, such as fees of membership, donations, &c., and disburse the same as directed upon the written order of the Executive Committee.

ART. VI. The Secretary shall keep a record of all proceedings of the Society; shall file all papers read before the Society; shall act as a librarian, and conduct the correspondence.

ART. VII. The Superintendent, shall visit different portions of this and other States; make collections of specimens, attend to exchanges with various societies, establish a system of co-operation and labor to incite a general interest in the study of Natural History.

ART. VIII. All specimens shall be labeled, registered and deposited in the Museum of the State Normal University.

ART. IX. Any resident of the State of Illinois may become a member of this Society on the payment of five dollars, if elected by a majority of the members present at any regular meeting: PROVIDED, the names of candidates for membership shall in all cases be presented on the recommendation of two members of the Society.

ART. X. Each regular member shall pay an annual assessment of two dollars after the first year of his membership.

ART. XI. The Executive Committee shall consist of five members, to be selected by the Society. This Committee shall take charge of and act upon all matters referred to them by the Society.

ART. XII. The Curator shall receive and take charge of all collections and contributions of specimens belonging to the Society, and arrange them in such place as shall be provided for them by the Society

ART XIII. All regular meetings of this Society shall be held in the city of Bloomington on the day preceding the Annual Examination of the Normal University.

ART. XIV. This Constitution may be amended or changed by a two-thirds vote of the members present at any annual meeting of the Society.

The Committee on Officers reported the following names, and recommended they be elected to the offices named:

President, Prof. John B. Turner, Morgan county; Vice-Presidents, Dr. Edmund Andrews, of Cook county; A. M. Gow, of Lee county; F. Brendel, Peoria county; J. H. McChesney, Sangamon county; M. L. Dunlap, Champaign county; B. G. Roots, Perry county; Ben. Wiley, Union county; Wm. Le Baron, Kane county; S. B. Mead, Hancock county; Secretary, Richard H. Holder; Treasurer, Dr. E. R. Roe; Curator, Cyrus Thomas; Superintendent, Gen. C. D. Wilber; Executive Committee, Ira Moore, C. D. Wilber, Chas. D. Bragdon, Dr. Geo. Vasey, Cyrus Thomas.

They were elected.

Adjourned.

—

EVENING SESSION.

Wednesday, 7½ *P. M.*

Society met in the Hall of the Normal University.

An address made by Cyrus Thomas, of Jackson county, on the study of Natural History.

A paper on Meteorology, in connection with Botany, from Dr. F. Brendel, of Peoria, read by C. D. Wilber.

A paper was read by Dr. Geo. Vasey, of McHenry, on the Mosses of Illinois.

A paper was also read by Dr. E. R. Roe, of Bloomington, on the extinction of certain species of Fluvistile Molusks, by the drouth of 1854.

After this, Prof. McChesney addressed the meeting on the Geology of Illinois.

Adjourned until 1½ P. M. to-morrow.

—

Thursday, 1½ *P. M.*

Society met, pursuant to adjournment.

Dr. Geo. Vasey presented a description of *Ascerates* found in Southern Illinois.

Cyrus Thomas presented a paper on the Orthoptera of Illinois.

The following resolutions were then presented and adopted:

Resolved, That we tender our grateful acknowledgments to the following Railroad Companies: Illinois Central, Chicago, Burlington and Quincy, Chicago, Alton and St. Louis, Chicago and Rock Island, Galena and Chicago Union, Terre Haute, Alton and St. Louis, Great Western of Illinois, Quincy and Toledo, Peoria and Oquawka.

Resolved, That the Executive Committee do hereby appoint Cyrus Thomas and Dr Vasey assistants in the Scientific Survey of Illinois.

Resolved, Whereas the Natural History of Illinois is intimately connected with that of the surrounding States, viz: Wisconsin, Iowa, Missouri, Indiana and Ohio; and whereas we believe that if a suitable plan of co-operation and exchanges between the naturalists of the said States was established, that it would greatly aid in the investigations of the Natural History of those States; therefore, we do hereby recommend and propose that a Convention of Naturalists from those various States be held in the city of Chicago, beginning the 12th day of September, 1859. And, to this end, we hereby appoint all the members of the Society delegates to attend sa d Convention on behalf of this Society.

Resolved, That the Executive Committee be required to procure the publication of the papers and proceedings of the Society in some paper generally circulated through the State.

Resolved, That the Superintendent of the Society be and hereby is authorized to exhibit, at the next State Fair at Freeport, such of the specimens belonging to the Society as he may deem most suitable. And, that he may be enabled to do this to the best advantage, the Executive Committee shall aid him in carrying out this object.

Resolved, That a catalogue of the plants and animals of Illinois be published, as far as ascertained, by this Society, to aid in exchanges and assist in advancing the study of Botany and Zoology.

RESOLUTIONS OF EXECUTIVE COMMITTEE.

Resolved, That the Superintendent be authorized to enter into contracts with colleges and other institutions of learning to furnish them with suits of Illinois specimens of Natural History, on the terms and according to the catalogue in the circular of the Superintendent.

Resolved, That, in accordance with the resolution of the Society, we select The Prairie Farmer as its medium for publishing the papers and proceedings of the Society.

Meeting adjourned until the next regular meeting.

THE STUDY OF NATURAL HISTORY.

Read before the State Natural History Society, at its annual meeting, at Bloomington, June, 1859.

By Cyrus Thomas, of Jackson county.

Ladies and Gentlemen:

Fully aware of the difficulty of making a subject so little studied and so completely confined to technical language as Entomology interesting to an audience, I have, therefore, determined to speak not only of the advantages derived from the study Entomology alone, but of the entire field of natural history, the reasons applicable to the latter being, in the highest degree, applicable to the former.

And, that I may be better understood, I will define Natural History, as I understand it.

Natural History has for its objects the classification of natural *terrestrial bodies*, the investigation of their *relations* and *qualities* and the *relations* and *functions* of their component parts. Yet this is not intended to include chemical relations, though, in reality, a branch of Natural History.

Any acquisition of knowledge that tends to elevate our conceptions of the Creator, to expand our minds, enlarge our views and elevate the standard of human pleasures and enjoyment, is certainly advantageous in the highest degree, and worthy to be studied.

Every fact learned in Natural History is that much actual knowledge acquired—shows us that much more of the power and wisdom of the Creator, and prepares the mind to receive the next fact linked with the one learned. For Natural History is made up of facts, of phenomena, not isolated and disconnected, but most admirably linked together and interwoven around the great central stem—*Design*—from which every root sends forth its culms. Consequently the more and more of this knowledge we acquire, the more we know of God's infinite power and wisdom; and the nearer are we approaching his eternal throne. And were it not that this wisdom is as limitless as space itself, we might hope to reach its very pinnacle. But it is pleasure to know that the great I AM has prepared inexhaustible fields of knowledge for us to explore that even eternity shall leave untouched.

I believe the mind of man is capable of continued expansion, and that the day will come on this earth in which a single mind will be capable of grasping the entire "Cosmos," of which the lamented Humboldt could discern the shadowy outlines, but which he in vain attempted to point out to others.

The vast lens of his mighty mind gave it a telescopic vision that reached beyond the ken of others. And for this reason his great work, though the parts are masterly compositions, yet, as a whole, is a failure. Yet he has marked the way up the hill, and the next explorer will the more easily find it; and, ere long, Humboldt's highest ascent will be left behind, as was his mark on Sorata's snowy peaks.

In proportion as our knowledge increases, and new objects of study become known, so our pleasures must increase, if this knowledge be rightly directed and used.

There is another reason why nature should be selected as a general study, and this is that it is to all an open field. Its doors are closed to none who have a mind to think and eyes to see or ears to hear, however indigent they may be. Nature throws wide her portals to all. Yet how few enter upon this rich field, how few are acquainted with the natural history of their own yards, be they ever so small.

It is well known to all present that the higher mathematics are studied by many who never expect to become astronomers or engineers, or to occupy any position that will require those abstruse calculations. Yet they are studied solely to strengthen and discipline the mind, and form the habit of close investigation, attention, comparison, &c. And this is done under the advice of most experienced instructors and philosophic reasoners.

The study of natural history is adapted to the same end in the highest degree, and, at the same time, has three advantages added, to-wit: the necessity for and inducement to physical exercise, an unending variety of new forms, and the art of classification.

While, on the one hand, mathematics are dry, and to some degree unattractive, especially to the tender sex, having a tendency to produce harsh, blunt manners or a desire to hang on hair-splitting differences, which results from their being entirely mental, having nothing pleasing for the eye to rest upon, on the other hand natural history presents, at every step, the most pleasing objects to the eye, with food sufficient for the most philosophic mind.

There is nothing better adapted to discipline the mind and give method than the classification and analysis of natural history. Suited to every capacity, from the weakest intellect up to the most profound, beginning with a few grand and comprehensive divisions and principles, it spreads to an almost endless minutiæ.

And, although the feats of the great chess player, Morphy, have been sounding in our ears as the most wonderful accomplishments of the human mind, still, the general naturalist, when penetrating into the depths of his science, has exactly the same feats to perform.

His boards are as numerous as those of Morphy, his pieces far more numerous and his spots less definitely marked.

For instance, when Owen, from a single mutilated New Zealand bone, formed a gigantic bird, that once stalked over the marshes of the pre-Adamite earth, it required powers of memory equal to anything performed by the noted chess player.

His boards were three mammalia, Aves and Reptilia, each divided into hundreds of compound and complicated sections, and from the deep storehouses of his memory he had to gather up the thousand forms that moved on each. Nor was this all; each one of this vast number of pieces was composed of parts, and this was but a part, that must be compared with all. He decided that nought in this wide range coincided with this; nor was this all—he decided what the other parts were. Back went the explorer, and ere long bone after bone was joined together, and the great Dinornis is before us.

And the study of natural history is a useful study, having many direct practical advantages. Agriculture is the pedestal on which the stately fortunes of bankers and merchant kings are reared, and as the pedestal contracts or expands, so rises or falls the lofty column. It is on the broad bosom of mother earth this pedestal is laid, so seeming secure. But earth teems with life from the most minute to the gigantic, and often the insects, despised and disregarded because of their minuteness, by their silent mining cause the broad pedestal to totter.

The luscious fruit is withered by curculio, rabbits, locusts, &c. The golden wheat is cut down in its prime by the chinch bug, weevil, rust, &c. The young maize is swept away by the army worm. The litttle Bruchus renders worthless the ripening peas. The cucumber dwindles away before the Galeruca vittata. The cabbage plants and turnips are riddled by the Hattica. The potato bug deprives us of that welcome dish, and so on through an almost endless list.

Wherever we turn our animal enemies are present ready to meet us, while at the same time our friends are by our side, but we are unable to recognize them, and thus often wage war with those who are busy destroying our worst enemies. But did we know them by sight, there are thousands for which we know no names, unless we go to the naturalist, and thus, without the specimen, cannot by words point out a single one so that it may with certainty be distinguished from the mass.

Once an alarm spread in England lest the Hessian fly should be imported. The privy council sat day after day debating how to prohibit its advent, but alas the general name did not suffice, not one of them would know it when they saw it. Fortunately a naturalist was at hand, Sir Joseph Banks; he lent his aid and thus helped them out of their difficulty.

By means of scientific names given by the naturalist, physicians are enabled to determine the plants they desire to use as medicine.

It is the Geologist that points out the rich mines of coal that lie hidden in the bowels of the earth.

It is the Herpetologist who points out to us those deadly reptiles, without waiting for sad experience to teach the same, and he dispels our fears of those which are harmless.

Therefore, we say, that natural history should be studied for the practical use made of the knowledge obtained. And, if it be a study so desirable and so useful, the question arises, *Should not the study be generally introduced into our schools and colleges?*

I answer, most emphatically, yes! There is no other branch of physics, nor any branch of metaphysics so important and so necessary to be studied in the school room as natural history. And I am glad to see that quite a number of institutions have ventured to cross the Rubicon; yet others are halting at the brink, fearful of the result.

Some parts of natural history have been taught in schools for a long time, yet in a disconnected manner that gave no idea whatever of the cosmology or, more strictly, the cosmogeny of nature. With the exception of Botany, they were almost useless, save their effect in disciplining the mind. The next question then is, *How* natural history should be taught in schools?

We may answer the question generally by saying:

1st. So as to best discipline the mind and most enlarge it.

2d. So as to prepare the student for the future prosecution of the study.

3d. So that the most practical use can be made of the knowledge gained.

4th. So as to beget in the student a love for the science.

But to be a little more definite and particularize somewhat, we state that the first object is chiefly gained by the classification and analysis of natural history. Therefore, it is necessary it should be taught, as a whole, systematically—as a matter of course—after defining and explaining the grand divisions, taking one branch at a time. But the relations of the various classes, divisions, orders, &c., should be pointed out as the student advances.

To illustrate: The class just beginning is taught first, the scope and extent of natural history in general terms; then the division into inorganic and organic is explained and illustrated, and their relations to each other shown. Then say the organic is taken, and the division into vegetable and animal is likewise explained and relations shown.

Then one of these kingdoms, as the animal, is selected as the branch to be pursued. Following the Cuvierian system, this is divided into vertebrata, mollusca, articulata and radiata. Or, if we follow Burmeister, divide into three groups, beginning at the lower animals, thus: gastrozoa, arthrozoa and osteozoa; giving the characteristic distinctions, the relations, &c., and at the same time illustrating, thus descending, step by step, to the smaller divisions,

at the same time analyzing, by actual inspection, specimens of each division and sub-division, as the students advance.

And, I may as well remark here, that it is next to an impossibility to give a correct idea of the boundaries of the various subdivisions of natural history, without the aid of a museum or cabinet of specimens. Yet this need not be very extensive or costly, as a collection of the following kind would be sufficient for all ordinary purposes, viz: In Mineralogy and Geology it is necessary to have specimens of each kind of mineral in the bounds desired to be examined, as it its utterly impossible to learn them from description alone. In Botany, the typical species of each genus desired to be known; in Zoology the same.

Yet, the classification and analysis of natural history is not all of it, by any means, nor will these entirely (although they do to a great degree) meet the other requirements. For the student has yet to learn the Physiology of vegetables and animals; Comparative Anatomy of Zoology; Geographical Distribution; the practical uses and purposes of the various objects of natural history; the nomenclature; and, lastly, the method of collecting, preserving and arranging specimens of natural history.

As the class advances, the instructor will find the different individuals of the class selecting some particular branch or subject, according to their different tastes. This is as it should be. The field is too wide for extensive research in each department by one mind, yet the general outlines and general principles should first be learned, as natural history has its parts too intimately connected to entirely isolate and dissever any one.

I think that natural history can be taught best by familiar lectures, selecting some good, general works as text books, to be used by the students, and at the close of each lecture, give the subjects of the next, so that the students might be prepared to answer questions thereon.

We have no very appropriate works that I can recommend as suitable to beginners, embracing general natural history. In Zoology, probably "Vander Hœven's Hand-book of Zoology," two vols., is best. In Botany, Gray's works stand first. In Geology, Lyell's Principles and Manual. Outlines of Comparative Physiology, Agassiz & Gould. Mineralogy, Dana's.

Permit me to add, in the close, that a more general acquaintance with natural history would have a strong tendency towards elevating the pleasures and pastimes of all persons, and especially the younger portion. It would draw them away from those frivolous and worse than useless enjoyments, that many of our young gentlemen and ladies indulge in, simply because their minds have not been filled with anything better. It would have a tendency to draw the minds of our females from display. Pardon me, ladies, when I say that it does seem to me that a large portion of your sex live as though they were but toys, to be displayed to the admiring public—for too many think of nothing else but display. But the

sterner sex are to blame for much of this. They cannot be content in the house a moment longer than to eat and sleep; they must haunt the bar-rooms, saloons, lodges, offices, &c., &c., leaving the females to enjoy themselves as best they can. Let each have something *new* to tell, and they will be together long enough to communicate that. Then, natural history is constantly unfolding something new, and that is as important to be known as what the colors of Mrs. Smith's bonnet are, or the pattern of Miss Allen's new dress.

"Consider the lilies *how* they grow; they toil not, they spin not, and yet I say unto you, that Solomon, in all his glory, was not arrayed like one of these."—*Luke xii*, 27.

Notwithstanding this is the language of our Saviour, very few believe it to be literally true. Ask them if it is so, and of course they answer, yes. But let them see Solomon, or even a modern nabob, arrayed in all their splendor, with the talisman of *power and wealth* attached—place beside them a lily and it is utterly forgotten and overlooked, and not one out of a thousand spectators would know the plant was there.

"Consider *how* they *grow*," not only their beauty, shape, size, &c., but the method of their growth, their perfection, the wonderful adaptation of every part and the provision of nature, that season after season marks the petals with exactly the same brilliant marks and stripes. In other words, study Botany, for it can mean nothing less. You are fond of finding out secrets and explaining mysteries; there hangs a veil over this, that Linnæus, De Candalle, Lindley, and hosts of others, have been unable to remove; make the attempt—it may have been left for you to do. You love something new. I speak to all. Natural history offers unexplored regions—ground that the boldest explorer never yet has trod; you may be the first to plant the standard on some terra-incognita.

And while Illinois has given one of her sons to a higher sphere —who now is extending his explorations far into the cold regions of the north—let us give him words of encouragement—thank him for what he has done for the honor of his State. And, while he sustains our name abroad, let us be at work at home; for, be assured, there is enough here to do. We all desire to see Illinois take the stand, in regard to natural history, by the side of Massachusetts and New York.

ON METEOROLOGY IN CONNECTION WITH BOTANICAL INVESTIGATIONS.

A paper read before the Illinois Natural History Society, June, 1859,

By Dr. Frederick Brendel.

In a paper written last year for the first convention of this Natural History Society, I alluded to the insufficiency of the adopted system of meteorological observation, as to be used in botanical and agricultural questions. In this paper I will try to put that assertion past doubt.

Light, humidity and heat are the principal agents in vegetable life. We know that in different climates, different genera and species of plants are produced; that the latter, except a few cosmopolites, have their northern and southern limits, and that plants which grow and produce fruits in a warmer climate perish in a cold climate; and that trees planted in a temperate climate, even when they can stand it, do not produce fruits, for want of the necessary heat. Evidently the full development of any species wants a certain sum of heat in a certain space of time.

When Humboldt introduced into science the system of isothermal lines, it was supposed that the northern limits of certain plants would coincide with certain isothermal, or at least with the isotheral lines. Very exact investigations on many European species, by Alfons De Candalle, have proved, that in no case the limits of a plant exactly coincide with any line of a certain temperature, in any season, and that the limits of the plants cross each other, or, if they do not, at least never run parallel.

De Candalle bases his further investigations upon two chief principles: 1. The active heat is the product of its degree and its duration. A more intense heat in a short time produces the same effect on plants as a less intense heat in a longer time. This is true, provided the range of temperature and the space of time is limited. 2. Every plant wants a certain minimum of heat for each of its physiological functions, as germinating, leafing, flowering, etc. The temperatures below freezing point have no effect on plants, or at a certain low degree a destroying one; but there are many species on which the lower degrees above freezing point have no effect. There is a starting point of vegetation for every

species at a certain degree of temperature; every species wants a certain sum of heat above a certain degree of temperature, distributed in a space of time between a minimum and a maximum of duration.

To find out this necessary sum of heat, it is necessary to calculate the mean temperature of every day above freezing point, as well as one deg., two deg., three deg., etc., above freezing point, counting all the observed degrees below the starting point, 0; to add together these daily means from the day when germinating or sap-moving is supposed to commence, to the day when the fruit is ripe, and to compare those calculations of many years. The most approximate sums will probably be the necessary ones; the series in which the same are found will indicate the starting point of growth, and the number of days which furnish the necessary sums of heat above the starting point will give the mean time, in which the above sums can be distributed.

I made some observations in that line, of which I shall give an account; but previously I must remark, that I preferred to use the Centigrade thermometer, the Fahrenheit scale being the most arbitrary and unscientific, presenting indeed to meteorology in general the advantage to avoid to a certain degree negative values, but exhibiting on the other side a great inconvenience in investigations of the above kind, as it commences in our calculations with the number 32, which we have to subtract; and as it produces very large sums.

Walferdin intended, by a new scale of 400 degrees, to unite the advantages of the Centigrade and the Fahrenheit scales, zero being the melting point of frozen mercury, and 400 the boiling point of mercury. Here zero coincides with—40 deg. F. 40 deg. C., and 140 deg. with 212 deg. F. and 100 deg. C. It is used by some French meteorologist, f. i. Babinet, and being based upon a natural principle, and avoiding, as far as the mercury thermometer can be used, all the negative values, it is indeed preferable to the Fahrenheit scale, but presents in connection with our investigations the same inconvenience.

A majority of scientific men in Europe have adopted the Centigrade scale, and it would be a great improvement, should it be adopted in England and North America. Frequent reductions causing a great waste of time, it is in general desirable that the scientific men of all countries should use one and the same measure and weight, and that this should be the French system, the only one that is not chosen arbitrarily, but based upon nature.

OBSERVATION.

In 1857, May 16, two days after a heavy rain, I planted some Indian corn in the yard of my residence; it sprouted May 25, and ripened September 30. In these 138 days the sum of the daily mean temperatures, 5 feet above ground in the shade, was 3,064; the sum of mean temperature of the soil 4 inches below the sur-

face at 3 P.M. was 3,443; the quantity of rain 13.2 inches; the mean quantity of cloudiness .4; the mean humidity of the atmosphere .68. The result of this observation is about the same as that which Boussingault reports of an observation in Alais, (France, 44 deg. N. L.,) at which place Indian corn ripened in 135 days, with the sum of daily mean temperature of 3,064. But the above observation is by no means as complete as it should be, and when I show the deficiencies of it, it may be seen that the adopted system of meteorological observations is unfit to be used in botanical physiology. In this observation, during the period in which the minimum of temperature was not falling below freezing point, I could use my meteorological observations made for the Patent Office, and so I calculate the monthly mean from the three daily observations at 7 A.M., 2 P.M. and 9 P.M., although this calculation excludes for the whole summer the minimum (before sunrise) and the maximum, (about 3 P.M.,) and I received the above sum, which would be necessary to ripen Indian corn, provided that the temperature of every degree above freezing point has any effect upon its growth.

In my meteorological observation in 1857, an abstract of which is published in Patent Office Reports for 1857, page 518, the thermometer extremes from April to October do not agree with those I observed for my own use before sunrise and between 3 and 4 P.M., the minima being lower and the maxima higher in the former. Both extremes are necessary to calculate the daily mean temperature above a certain degree.

For want of a practicable instrument, which indicates the gradual rise and fall of temperature in any time, f. i., the pendulum thermometer by Becquerel, which I do not know sufficiently to describe it, I prefer the four times observations of the army meteorological register, (maximum, minimum, 9 A.M. and 9 P.M.,) in connection with a reduction table, as the best for botanical purposes. When a maximum and minimum thermometer is used, these observations will not be more troublesome than those of the adopted system, and will evidently be the best to calculate the mean temperature above a certain degree, about which the heat has any effect on vegetation, and the space of time in which the same works.

Beside the temperature of the soil, the intensity of direct insolation should be measured by a thermometer fully exposed to the rays of the sun.

Beside the amount of clouds, the duration of sunshine should be noted, because the latter cannot be deduced from the former. It may happen that the sky is half covered with clouds, and still the sun shines the whole day. Both intensity and duration of sunshine have the most important influence on vegetation.

To show how little value in botanical questions the adopted system is, I will give an account of some other observations made in

a season in which the temperature partly falls below the freezing point.

Since five years, I note occasionally the periods of leafing, flowering and fructification of plants. In 1857, the spring was rather retardative; in 1859 very early. Comparing the periods of flowering with the accumulation of heat in both years, from January to that period, I found in some species a striking coincidence of the sums of the mean temperature, and of the number of days on which the temperature rose above freezing point. In other species, perhaps by some errors, i. e., in noting some other than the first day of flowering, the calculation was not as I expected; but further observations I hope will have the same convincing result. In the mean time, the following table will show the difference between the calculations according to the adopted system and that of De Candalle:

SUM OF THE DAILY MEAN TEMPERATURES.

	First day of flowering from Jan. to the first day of flowering according to the adopted system.		Counting the temperatures above a certain degree.			
			Above freezing point.	1° above freezing point.	2° above freezing point.	
Acer Saccharinum.....	1857 May 10	39.4	526 in 87 d's	443 in 86 d's	392 in 85 d's	
	1859 Apr. 20	327.4	522 " 88 "	447 " 87 "	377 " 87 "	
Cratægus Coccineus...	1857 May 20	155.6	642 " 97 "	549 " 96 "	489 " 95 "	
	1859 Apr. 30	452.4	646 " 98 "	562 " 97 "	483 " 97 "	
Æsculus Glabra.....	1857 May 20	155.6	642 " 97 "	549 " 96 "	489 " 95 "	
	1859 Apr. 30	452.4	646 " 98 "	562 " 97 "	483 " 97 "	
Cerasus Virginiana.....	1857 May 25	263.0	750 " 102 "	652 " 101 "	587 " 100 "	
	1859 May 5	555.0	750 " 103 "	661 " 102 "	576 " 102 "	
Asimina Triloba.....	1857 May 31	361.2	848 " 108 "	744 " 107 "	672 " 106 "	
	1859 May 10	637.5	852 " 108 "	758 " 107 "	668 " 107 "	
Robinia Pseudacacia...	1857 Jan. 7	471.0	978 " 115 "	867 " 114 "	788 " 113 "	
	1859 May 16	767.0	962 " 114 "	862 " 113 "	766 " 113 "	

I have calculated in this way eleven series, as far as to ten degrees above freezing point; but as it seems, most of our plants flowering in spring commence with the moving of sap when the temperature rises above freezing point, and so it is not necessary to take notice of the rest, as the numbers diverge more and more. Robinia pseudacacia makes the only exception, the starting point of which is probably one deg. above freezing point, and remarkably this is a more southern species. The calculation for this species is the most reliable, because the individual trees on which the observation was made stood in the immediate vicinity of the place of the meteorological observations.

That of the above species scarcely one would have been in flower before June in 1857, if the low temperature in winter had

displayed a *reactive* power instead of being *inactive*, will be understood in the following table:

COMPARATIVE TABLE OF MEAN TEMPERATURE AND THE ACCUMULATION OF HEAT DURING THE FIRST FIVE MONTHS IN '57 AND '59.

	Jan.	Feb.	Mar.	Apr.	May	Jan. May	Feb. May
Sum of the daily mean temperature	320	47	27	142	465	361	681
Sum of the daily mean temperature above freezing point	6	106	108	163	465	848	842
Number of days the mercury did rise above freezing point	4	24	21	28	31	108	104
Sum of the daily mean temperature	73	26	225	275	615	1068	1141
Sum of the daily mean temperature above freezing point	57	84	226	279	615	1261	1204
Number of days the mercury rose above freezing point	19	18	31	30	31	129	110

The difference is not so great in the last column, wherein we excluded January from the calculation. We could do so, if our observations had been made on early annual plants, which we had planted in February. But all the above species are woody plants. The buds formed during the summer of the preceding year can be taken for ripe seeds, when the process of the yearly vegetation is finished; whenever the weather is favorable it manifests its influence in the vegetation of the next year. So we had rather to include the months of November and December in our calculation than to exclude January. An addition of both months in 1856 and 1858 would diminish the sum of mean temperature for 1857 to 340, and increase the same for 1859 to 1146. The sum of active heat would be increased for 1857 to 993, for 1859 to 1436; the number of days for 1857 to 149, for 1859 to 176. That makes no alteration in the main question.

I do not claim that my mode of calculation could not be improved, but my assertion is: The winter temperature below freezing point, if not destructive, is not reactive, but inactive, and consequently to be excluded from the calculations of the active heat in botanical investigations; and wherever the meteorological observations under the direction of the Patent Office are intended to be applied to botany and agriculture, it is necessary to make the following additions: The maximum and minimum of the daily temperature, the time when the mercury rises above or falls below freezing point, the temperature of the soil, the duration of sunshine and the intensity of the direct insolation.

MOSSES OF ILLINOIS.

Read before the State Natural History Society, at Bloomington, Illinois, June, 1859,

By Dr. George Vasey, of McHenry county.

The mosses of our State have not, so far as I am aware, been noticed in any catalogue of the plants of this region. During the past winter and spring I have given them considerable attention, as they occur in McHenry county, and have, during the same time, had the benefit of various observations on the same order of plants, made by my friend, Mr. M. S. Bebb, in the counties of Marion and Winnebago. My observations have been very limited in extent, and made under considerable disadvantages; yet, such as they are, I propose to submit them at this time to your attention.

Mosses belong to the second great division of the vegetable kingdom, called Cryptogamia, in which the plants are destitute of proper flowers, and produce, in place of seeds, minute bodies, called spores, in which there is no embryo, but a homogeneous structure and an adaptation to germinate from any part of their surface.

Cryptogamous plants are subdivided into two classes, called Acrogens and Anophytes, the first embracing those which grow only from the apex, and contain woody fibre and vessels. This class comprises several orders: the Equisetaceæ or Rushes, Filices or Ferns, Lycopodiaceæ or the club mosses, &c.

The second class Anophytes comprises those plants growing from a single point by an axis or stem, and composed of cellular tissue alone. This class is divided into two orders: Musci or Mosses and Hepaticæ or Liverworts.

The order Musci, to which our attention is at present directed, is defined by Mr. Sullivant as embracing "low, tufted plants, always with a stem and distinct leaves, producing spore cases which open, usually, by a terminal lid, and contain simple spores alone. The reproductive organs are of two kinds: the sterile, consisting of numerous cylindrical sacs, which discharge from their apex a mucous fluid, filled with oval particles, and then perish; the fertile organs are composed of numerous flask-like bodies, called Archegonia, each having a membranous covering or calyp-

tra. The ripened archegonium becomes the capsule, which usually opens by a lid or operculum; beneath the operculum, and arising from the mouth of the capsule, are commonly one or two rows of rigid processes called peristome, which are always some multiple of four; those of the outer row are called teeth—those of the inner row, cilia. The powdery particles filling the capsule are spores or sporules. The calyptra or hood, separating early at its base, is carried up on the apex of the capsule; if it splits on one side, it is hoodshaped or cuculliform; if not, it is mitre-shaped or mitriform."

Of Illinois Mosses, which have been collected by me and are represented in the collection now presented the Society, I shall attempt no full scientific descriptions, but simply such general notice as may lead to a general understanding of their habits and situation.

1. Weisia viridula, Bridel., a very small species, not more than one-half an inch high, growing in loose patches on the ground. It has a very diminutive capsule, of a reddish color, raised on a short pedicel.

2. Of the genus Dicranum, I have collected two species: Dicranum varium, Hed., a small species, on clay banks.

3. And D. scoparium, L., a pretty large and strong moss, with long, recurved leaves, growing in dense cushions on the ground in shaded ravines.

4. Ceratodon purpureus, Bird., a moss growing in small, dense masses on the ground, of a very glossy, dark-red color, the pedicels an inch or more in length.

5. Leucobryum glaucum, Hamp. This moss grows in dense and extensive patches, on the ground in open woods, and is of a singular greenish-white color.

6. Fissideus bryoides, Hedw., is an extremely minute moss, only a few lines in height, growing in loose patches on the ground in shaded woods.

7. Fissideus subbasilaris, Hedw., is somewhat larger, the two-ranked leaves resembling a miniature fern. It grows at the base of trees near the ground.

8. Barbula unguiculata, Hed., a slender, upright moss, one or two inches high, growing in loose patches on clay banks.

9. Drummondia clavatella, Hook., a very low moss, with stems running and intertwining, in close, thin mats, on the trunks of trees, chiefly observed in Southern Illinois.

10. Orthotrichium strangulatum, Beaur., a singular moss, growing in small circular tufts, from half an inch to an inch in diameter, on the bark of trees, particularly of the Burr Oak.

11. Schistidium apocarpum, Br., a small moss with blackish-green leaves, growing in close tufts or patches on bare rocks.

12. Hedwigia ciliata, Ehrh., a moss of similar habit with the preceding, but larger, and forming extensive loose patches on rocks and boulders.

13. Atrichium augustatum, Beaur., a large, handsome moss, growing in dense cushions under trees. The capsules are large and conspicuous, and elevated on long pedicels.

14. Polytrichium commune, L., a larger and coarser moss than the preceding, attaining 6 to 12 inches in height, growing in compact tufts on moist, shady ground.

15. Timmia megapolitina, Hed., a pretty, large, upright moss, with rather rigid spreading leaves, growing in cushions on the ground, in shady ravines and banks. It is easily recognized by a small, leaf-like structure, frequently found at the base of the capsule, which is an imperfect calyptra, through which the capsule has protruded itself by a lateral fissure.

16. Aulacomnion heterostichum, Br., a moss of peculiar appearance, of a light color, with large, soft and abundant leaves, growing in similar situations with the last—often in company with it.

17. Bryum roseum, Schreb., a large and handsome moss, with large, broad leaves, in rosettes, at the apex of the stems, growing in moist, shady woods, frequently in company with Atrichium augustatum.

18. Bryum argenteum, L., a small, low species, growing in silvery-white patches on the ground; frequent in gardens and cultivated soil, and fruiting abundantly.

19. Mnium cuspidatum, Hed., a very common moss, forming large patches on the ground, and at the base of trees in the woods. Its capsules are pendulous, and are dropped very soon after they mature.

20. Bartramia pomiformis, Hed., a larger moss, remarkable for its globose capsules, growing in large mats on shady banks.

21. Funaria hygrometrica, Hed., one of the commonest of mosses, growing in patches on exposed ground, particularly where lately burnt over. It has a few leaves at the base, crowded into a bud-like cluster, and a pedicel two or three inches long, terminated by a pyriform, inflated, nodding capsule. Damp weather has the effect of spirally twisting the pedicels.

22. Physcomitrom pyriforme, Br., a small moss with a small rosette of leaves at the base, and a pedicel half an inch to an inch in height, with an erect, pear-shaped capsule. It grows in loose patches, on moist ground, not in woods.

23. Leucodon julaceus, Sall., a moss with creeping stems and short, roundish branches, growing on trees, principally in Southern Illinois.

24. Anomodon attenuatus, Hub., a moss of very fine appearance and glossy leaves, growing in dense beds on damp, gravelly banks, and at the base of trees in ravines and along streams.

25. Anomodon obtusifolius, Br., a species with larger branches than the preceding, growing on the trunks of trees in moist ground.

26. Leskea rostrata, Hed., a moss of light or yellowish-green color, growing in dense beds on the ground and at the base of trees in woods.

27. Thelia hertella, Hed., a moss growing in thin, compact patches, at the base of trees, of a glossy, yellowish-green color, with erect cylindrical capsules, on short pedicels.

28. Pylaisæa intricata, Bry., grows in thin, closely entangled patches, on the trunks of trees.

29. Homulothicium subcapillatum, Bry., very similar to the preceding, and growing with it on trees, but with softer and lighter colored foliage.

30. Platygyrium repens, Bry., a delicate species, growing in brownish-yellow patches, on old logs and decaying wood. The stems are prostrate and entangled, and closely attached to the surface on which they grow. They send up numerous slender pedicels, with erect, oval, oblong capsules.

31. Cylindrothecium cladorrhizaus, Bry., a very showy moss, with broad, flat branches and greenish-yellow foliage, spreading on old logs and stones in moist woods.

32. Cylindesthecium seductrix, Bry., a closely allied species, but smaller in all its parts, and occurring frequently in the woods at the base of trees.

33. Climacsum Americanum, Brid., or American tree moss, is perhaps the most splendid in appearance of any moss in our country. Its large size, tree-like aspect and conspicuous pedicels make it conspicuous among plants of this order.

34 to 40. Quite the most extensive of the family of mosses is the genus Hypnum. Nearly ninety species are recorded as growing in the Northern States. For want of proper instruments for analysis, I have, thus far, identified only six or eight species, but many others are yet to be determined which are found within our limits.

RECAPITULATION OF ILLINOIS MOSSES, OBSERVED BY DR. GEO. VASEY, TO JUNE 29, 1859.

1. Polytrichium commune. 2. Anlacomnion heterostichum. 3. Atrichium augustatum. 4. Bartramia pomiformis. 5. Timmia megapolitina. 6. Dicranum scoparium. 7. Dicranum varium. 8. Thelia hirtella. 9. Pylaisea intricata. 10. Hedwigia ciliata. 11. Mnium cuspidatum. 12. Mnium affine, (?) 13. Funaria hygromet. 14. Anomodon obtusif. 15. Anomodon attenuatus. 16. Leucodon julaceus. 17. Leucobryum glaucum. 18. Bryum roseum. 19. Bryum argenteum. 20. Leskea rostrata. 21. Fissidens subbasilaris. 22. Fissidens bryoides. 23. Ceratodon purpureas. 24. Climacium American. 25. Hyprum hispidulum. 26. Hyprum orthocladon. 27. Hyprum radicale. 28. Hyprum schreberi. 29. Hyprum serrulatum. 30. Hyprum lactum. 31. Hyprum salebrosum. 32. Hyprum imponeus. 33. Hyprum tamariscinum. 34. Hyprum (uncertain.) 35. Schistidium ——. 36. Platygyrium repens. 37. Homaeothecon sub. 38. Cylindrothecium clad. 39. Cylindrothecium seductrix. 40. Barbula unguicu. 41. Weisia unguiculata. 42. Orthotrichium str. 43. Physcomitrium py. 45. Madotheca plat.

NOTES ON THE GREAT DROUTH IN '53 and '54.

Read at the annual meeting of the Illinois State Natural History Society, June 29, 1859,

By Dr. E. R. Roe, of Bloomington.

It is well known that Central Illinois suffered from drouth, beyond all known precedent, during the years 1853 and 1854. In the county of McLean, not only did the most permanent springs and wells go dry, but a large number of those lakelets or ponds which make so prominent a feature in our prairie, which were *never dry before*, dried up to their very centers. The proof that these ponds were never dry before is what I wish to call attention to.

In 1852, I gathered living specimens in these ponds, of Cyclas Limnea, Physa and Planorbis. They were found, in numerous places and great numbers, alive. During the dry weather of 1853, these animals perished in great numbers; but still enough survived to perpetuate the respective species, and it was not difficult to find living ones in the spring of 1854. But in the autumn of that year not one was left alive of any genus but Cyclas; and of these only a few escaped, and these in only an occasional pond. Physa, which usually burrows in the mud, and thus frequently survives until the rains begin to fill up the ponds, burrowed in this instance in its own grave. And the dead shells may now be disinterred in great numbers. For five years I have watched for the return of living specimens; but in every pond where they perished they are utterly extinct.

Before giving what seems to be the natural explanation of the facts in this case, it will be proper to examine the situation and to inquire into the origin of the ponds.

In the first place, the ponds generally appear to be related to each other, even by the present drainage surface, or evidently so by that of a more ancient surface, the history of which is indicated by certain series of stratified banks of gravel and sand. These masses of gravel are more recent than the drift formation. They lie above the drift, and the evidence of river agency in transporting, rolling, rearranging and stratifying the sand and gravel, is complete.

The inference from the foregoing facts is this: that at a period subsequent to the drift, streams of running water traversed the prai-

ries; that in changes which caused the rivers themselves to disappear, the deeper portions of their beds became ponds, and that the animals which originally inhabited the streams were thus left distributed in the ponds.

This theory does not require separate origins of species for every pond, and accounts for the fact that, having become once exterminated, they remain extinct.

As an indication of the length of time during which the Molusca inhabited the ponds, I have found their shells in abundance in excavations five feet beneath the present bottoms of the ponds.

In conclusion, it is clear that the story told by the dead shells now in the ponds is this: that the drouth of 1853–54 was greater than had ever occurred since the disappearance of the rivers which peopled the ponds.

ORTHOPTERA OF ILLINOIS.

Read before the State Natural History Society, at Bloomington, June, 1859,

By Cyrus Thomas, of Jackson county.

The name Orthoptera is composed of two Greek words, signifying "straight wing," in allusion to the longitudinal folding of the under wings, which fold much like a lady's fan.

This order contains the following families, viz:

1—Blattidæ. 2—Mantidæ. 3—Phasmidæ. 4—Achetidæ. 5—Gryllidæ. 6—Locustidæ.

I.—Blaitidæ.

This family is composed of the various species of Cockroaches. All the Illinois species may be placed in the genus *Blatta*, although the greater portion belong to the restricted genus *Kakerlac*, of the French Entomologists.

1—*Blatta Americana*, (?) A large, winged species, found about houses.

2—*B. Pennsylvanica.*

3—*B.* (?) An undetermined species, with beautiful, ample elytra and wings; possibly a variety of the first named species, though smaller and paler.

4—*B.* (?) An undetermined species, with abortive elytra and wings. I am unable to say whether we have the *B. orientalis* here or not.

II.—Mantidæ.

This family is composed of insects entirely predaceous, having their fore-legs peculiarly adapted to their mode of living. We have, so far as I know, only one species of this family in this State, viz: *Mantis Carolina.*

III.—Phasmidæ.

This family is composed of those singular insects to which the names "Devil's coach horses," "Spectres," "Walking-sticks," &c., have been given. Of these Dr. Fitch informs me he has re-

ceived three species from Illinois, but, as he has not given the names, I must confine myself to my own observations. I have seen two species.

1—*Diapheromera Sayi*, Gray. (*Spectrum femoratum*, Say.) Of the other species I have been unable to procure a specimen.

IV.—Achetidæ.

Contains those insects commonly called Crickets. Of these we have in Illinois the following species:

1—*Gryllotalpa brevipennis.* The short winged Mole-cricket.

2—*Acheta abbreviata.* Short winged, black, field Cricket.

3—*A. Carbonarius.* Long winged, black, ground Cricket.

4—*A. Nigra.* Little black Cricket.

5—*A.* (?) This species I cannot name. It corresponds very nearly with Serville's description of *A. domestica*, even to the bands across the forehead. They live much of their time in the houses, about the hearths, though are also found about the fields. As Dr. Harris says we have no house Crickets in this country, I fear to give this as *A. domestica*, yet it surely is a very closely allied species, similar in size, color and habits. See specimen No. 35, box 1, Orthoptera, Museum of "Illinois Natural History Society," Bloomington, Illinois.

6—*Œcanthus nivens.* White climbing Cricket.

7—*Phalangopais maculata.* The spotted wingless Cricket.

Dr. Harris says: "With us [in America] the creaking of Crickets does not begin till summer is gone," &c. This will not hold good in Illinois, for this is only the last of June, and yet I have heard their noise for the last month from sunrise until late in the night.

V.—Gryllidæ.

This family comprises the true Grasshoppers, and is distinguished from the following family by the long, slender antennæ and the inserted ovipositor of the female. Of this family I have been able to find the following species in this State, though doubtless others are to be found in the State:

1—*Phylloptera laurifolio*, Linn. (*Curvicanda*, Dr. Geer.)

2—*Phaneroptera augustifolio*, (Harris.)

3—*Platyphillum concavum.* The Katy-did.

4—*Conosephalus ensiger.*

5—*Orchelimum vulgare.* The common green Grasshopper.

6—*O. Gracile.*

7—*O.* (?) I presume this is an undescribed species; but, as the only specimen (box 1, Orth. No. 24, Mus. Ill. Nat. H. So.,) is in the larvæ state, it is impossible to tell with any degree of certainty. It is of a light brown color, the thorax marked along the sides with broad bands of shining black. Length, 1 to 1¼ inches.

VI.—Locustidæ.

This family contains our Grasshoppers with short antennæ, that reside mostly on the ground.

1—*Opsomala punctipennis.* (?) Serv. Female much larger than the male; former $1\frac{1}{2}$ to $1\frac{3}{4}$ inches long, latter 1 to $1\frac{1}{4}$ inches.

2—*Acrydium Americanum*, Drury. (Flavo-fasciata, DeC.)

(*a*) Var., the yellow.

(*b*) Var., the red.

The former variety appears in the early part of the summer, while the latter does not make its appearance until after the middle of the summer.

3—*A. Femur-rubrum.*

4—*A. Flavo-vittatum*, Harris. (*Milberti*, Serv.)

(*a*) Var., the yellow.

(*b*) Var., the purple.

5—*A.* (?) Undetermined; probably new species. Length of female, $1\frac{3}{4}$ to 2 inches; of male, $1\frac{1}{2}$ to $1\frac{5}{8}$ inches. Head and body of a dark greenish-brown color, tinged with yellow. The abdomen of the female an olive-green, spotted with black; of the male, a bright yellow. The inside of the posterior femora and tibiæ, of both sexes, a bright yellow; exterior face of the thighs, marked with regular, converging lines, alternately of black and yellow. Elytra, of a uniform olive-brown, opaque at the base, transparent at the tips; longitudinal nerves distinct, of a darker brown; the transverse nerves short and lighter. Wings transparent, very slightly tinged with yellow next the base; nerves dusky. The female of this species, I think, is decidedly the most robust locust or grasshopper we have, the thorax and abdomen being very bulky and the posterior thighs remarkably enlarged. The abdomen of the male turns up at the extremity and is enlarged at the tip. The antennæ long, and articulations can be counted by the natural eye, 22 or 23 jointed. Can this *A. clavuliger*, Serv. (Spe. No. 73 and 74, box 1, Orth. Mus. Ill. Nat. H. So.)

6—*A.* (?) This species is very similar, in coloring and general appearance, to *A. femur-rubrum.* Length of female about one inch. Elytra dusky-brown, almost transparent; equal in length to the abdomen; have very few spots on them; wings transparent, length of elytra. The antennæ have only 22 or 23 joints, while those of *femur-rubrum* have 27. If I am correct in this, then this is certainly a distinct species. This is much like a specimen (No. 2,236) I received from Dr. Fitch, to which he has given the name *gregarium*, from Texas. (Spe. No. 59, box 1, Orth. Mus. Ill. Nat. H. So.)

7—*A.* (?) Undetermined. Length of female, $1\frac{1}{2}$. General color a dark, brownish-purple, with coppery spots. Antennæ yellowish; thorax, a velvety purple; the postscutellum strongly punctured. Elytra, extending over only one-half the abdomen, marked along their internal margins with a light reddish-brown ray; external margin dusky; a few dusky spots along the inner mar-

gin. Wings transparent, pale yellowish on the disc, tinged with red at the base; posterior thighs on the external surface black, with three reddish-yellow spots on the under half; posterior tibiæ reddish with a black ring around the top. (Spe. No. 71 and 48, box 1, &c.

8—*A.* (?) Undetermined; probably new species. I have been unable to find this species with any better developed elytra and wings, though I have found them in abundance. Yet this does not appear to have passed through all its moultings. Length of female $1\frac{1}{2}$ to $1\frac{3}{4}$ inches; general color pea-green; thorax arched or keeled, with no lateral angles; postscutellum large, acute-angled; entire thorax punctured. Wing covers and wings covering nearly half the abdomen, greenish, marked with fine red and dark punctures or spots. Posterior thighs long and slender, somewhat winged, as in Locusta, green, marked along each angle or keel with a row of regularly placed dark points or punctures. Antennæ large, short. (Spe. No. 45, box 1, &c.) This, although having the prosternal point and some other characters of the Acrydia, I think should belong to a distinct genus.

9—*Locusta Carolina.*

10—*L. sulphurea.*

11—*L. nebulosa.*

12—*L. corallina.* (?) The specimens to which I have given this name may belong to a different species, as the wings instead of being coral red, are almost an ochre, tinged but slightly with reddish. They do not agree with the *latipennis* in the markings of the elytra. (See box 2, Orth. &c.)

13—*Locusta* (*Tragocephala*) *viridifasciata.*

14—*L.* (*Tragocephala*) *infuscata.*

15—*L.* (*Chlœaltis*) *curtipennis.* Two varieties.

16—*Tetrix dorsalis.*

17—*T. bilineata.*

18—*T. quadrimaculata.*

19—*T. lateralis.*

(*a*) Var., the white.

(*b*) Var., the black.

20—*T. parvipennis.*

I have given no name to those species marked "undetermined," because they may have been named by some author whose writings I have been unable to procure. I have no copy of Say's Entomology.

Hoping the Society will accept this hasty and imperfect list of the Orthoptera of Illinois, as an earnest of the future, I submit it, with all its imperfections.

APPENDIX.

LAW FOR THE PROTECTION OF BIRDS.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly*, That it shall not be lawful, in this State, for any person to shoot, or in any other manner to kill or destroy, or entrap, ensnare or otherwise capture any of the following description of birds, to-wit: The blue bird, swallow, martin, musquito hawk, whip-poor-will, cuckoo, woodpecker, cat bird, brown thrasher, red bird, sparrow, wren, humming bird, dove, goldfinch and mocking bird.

§ 2. Every person who wilfully violates the provisions of the preceding section, or who shall wilfully destroy the nests or eggs of any of the birds hereinbefore described, shall be punished by a fine of not more than five dollars for each offence.

§ 3. This act to take effect and be in force from and after its passage.

APPROVED February 24, 1859.

STATISTICS OF TAXABLE PROPERTY IN ILLINOIS.

The following table was arranged for the body of this work, and may not be out of place here. It was prepared by O. H. MINER, ESQ., first clerk of the auditor's office. It shows the steady increase in value of the taxable property in Illinois, with the exception of the two years of pecuniary pressure, 1840, and 1858:

Statement of amount of taxable property in the State of Illinois for the years 1839 *to* 1858, *inclusive, as shown by returns to the Auditor.*

YEARS.	AMOUNT.	YEARS.	AMOUNT.
1839	$ 58,889,525	1849	$ 105,432,752
1840	58,752,168	1850	119,868,336
1841	70,166,053	1851	137,818,079
1842	72,605,424	1852	149,294,805
1843	72,416,800	1853	225,159,633
1844	75,747,765	1854	252,756,568
1845	82,327,105	1855	334,398,425
1846	88,815,403	1856	349,951,272
1847	92,206,493	1857	407,477,367
1848	102,132,194	1858	402,505,430

INDEX.

PAGE.

Awards: Fifth Annual State Fair, Peoria, ... 26,44
" Sixth Annual State Fair, at Centralia, ... 78,94
Address: at Christian Co. Fair, 1857, 125
" at Crawford Co. Fair, 1857,... 130
" at Mercer Co. Fair, 1857,..... 147
" at Randolph Co. Fair, 1857, 154
" at Sangamon Co. Fair, by M. L. Dunlap, 1857,..... 159
" at Christian Co. Fair, by H. H. Hinkley, 1858,..... 191
" at Henry Co. Fair, by C. D. Bragdon, 1858,..... 211
" at Kendall Co. Fair, by M. L. Dunlap, 1858,..... 230
" at Macoupin Co. Fair, by Gov. Reynolds, 1858,..... 259
" at Stephenson Co. Fair, by Dr. Pennington, 1858,..... 276
" at Bloomington, by A. Bryant, 1858,. 243
" at Bloomington, by M. L. Dunlap, 1858,..... 347
" at Jonesboro, by Dr. Warder, 1859,.. 383
" at Alton, by Dr. Warder, 1857, 388

Committees' Reports, 1857:
Cattle,..... 44,45
Sheep,..... 45
Horses, ... 46
Fruit—apples,..... 46,47
Wines,..... 47,48
Natural History—geology,..... 48,50
Farms and Nurseries,..... 50,57
Committees' Reports for 1858:
Natives and crosses, cattle,..... 95
Fat bullocks, ... 95
Work oxen,..... 96
Swine,..... 96
Farms and nurseries..... 100
Notes on fruit culture in Northern Illinois..... 57,61
County Agricultural Societies, 1857:
Adams county,..... 121
Bond county,..... 123
Boone county,..... 124

PAGE.

County Agricultural Societies, 1857:
Christian county,... 125
Clark county,..... 128
Clay county, ... 129
Clinton county,..... 129
Crawford county,..... 130
DeKalb county,..... 136
DuPage county,..... 138
Fayette county,..... 140
Hancock county,..... 140
Henderson county,..... 141
Henry county,..... 141
Kankakee county, ... 143
La Salle county,..... 143
Madison county,..... 144
Mercer county, ... 147
Randolph county,..... 153
Sangamon county,..... 157
Stephenson county, ... 173
Tazewell county,..... 173
Union county,..... 174
Vermilion county,..... 175
Winnebago county, ... 177
County Agricultural Societies, 1858:
Adams county,..... 180
Brown county,..... 184
Boone county,..... 184
Bureau county,..... 186
Champaign county,..... 187
Clinton county,..... 188
Clay county, ... 189
Crawford county, ... 190
Christian county,..... 191
Cass county, ... 197
Cook county, ... 198
DeKalb county,..... 203
DeWitt county,..... 204
Edgar county, ... 205
Fayette county,..... 206
Fulton county,..... 206
Henry county,..... 210
Hamilton county,..... 293
Greene county,..... 221
Grundy county,..... 222
Hancock county,..... 227
Jasper county,..... 228
Kane county,..... 229
Kendall county, ... 230

PAGE.

County Agricultural Societies, 1858:
Knox county,..... 244
La Salle county,..... 248
Lee county,..... 248
Logan county,..... 250
Macon county,..... 254
Macoupin county,..... 256
Menard county,..... 261
Morgan county,..... 263
Moultrie county,..... 267
McLean county,..... 267
McHenry county,..... 268
Pike county,..... 271
Randolph county,..... 272
Rock Island county,..... 273
Sangamon county,..... 274
Stephenson county,..... 275
Tazewell county,..... 284
Vermilion county..... 285
White county,..... 286
Whiteside county,..... 288
Will county,..... 292
Woodford county,..... 294
County Agricultural Societies:
Officers of societies which have made no report,..... 296
Clark county,..... 296
Coles county,..... 296
Crawford county,..... 296
Cumberland county,..... 296
Du Page county,..... 296
Edwards county,..... 297
Effingham county,..... 297
Franklin county,..... 297
Iroquois county,..... 297
Jackson county,..... 297
Marshal county,..... 298
Mason county,..... 298
Massac county,..... 298
Mercer county,..... 298
Piatt county,..... 298
Perry county,..... 298
Putnam county—Buel Institute,... 299
St. Clair county,..... 299
Shelby county,..... 299
Stark county,..... 299
Wabash county,..... 299
Warren county,..... 299
Wayne county,..... 300
Whiteside county,..... 300
Woodford county,..... 300

Essays: Premiums awarded 1857,..... 44,73
" " " 1858,..... 102

Field crops, 1857—statements:
Spring wheat,.....61,62
Fall wheat,..... 61
Corn,..... 62
Oats,..... 63
White beans,.....63,64
Potatoes,..... 64
Timothy seed,..... 64
Blue grass seed,..... 65
Onions,..... 65
Syrup of Chinese sugar cane,..... 65

PAGE.

Field crops, 1858—statements:
Wheat,.....103,104
Rye,..... 104
Corn,..... 104
Beans,..... 104,105
Potatoes,..... 105
Sweet potatoes,..... 105
Clover seed,..... 106
Castor beans,..... 106
Sugar from imphee,..... 106
Sugar from sorgho,..... 107
Syrup from sorgho,.....107,109
Farmers' meeting at Centralia:
Discussions—rust on grain,..... 110
Oats,..... 112
Hungarian grass,..... 113
Chufas or earth almond,..... 114
Dioscorea battatas..... 114
New Rochelle blackberry,..... 114
Common blackberry,..... 115
Raspberries,..... 115
Rust on grain,..... 116
Underdraining,..... 117
Deep plowing..... 119
Forests and forest trees,..... 651

General committee,.....22,23

Illinois stock importing association,..... 301
Rules and regulations for same,.... 301
Meeting of association,..... 303
Sale of stock,..... 303

Meeting of State Society, 1857,.....17,18
Meeting of State Society at Peoria,..... 67
Meteorological observations,..... 633
Meteorology in connection with botanical observations,..... 671
Microscopic insects,..... 644
Mosses of Illinois,..... 676

Natural History Society:
Proceeding in 1858,..... 637
" in 1859,..... 662
Natural History—On the study of,..... 665
Notes on the great drouth of '53-'54,... 681
Normal School:
Statement by the principal, Charles E. Hovey..... 398
Nurseries of Illinois:
Report from O. B. Galusha, Cor. Sec. Ill. State Hort. Society,..... 370
List of nurseries reported,..... 372
North Western Fruit Growers' Association,..... 387
List of apples recommended by fruit association,..... 387
Address on fruit cultivation, by Dr. Warder,..... 388

Proceedings of executive committee at Springfield, 1857..... 19,26
Proceedings of executive committee at Peoria, 1857,.....68,70
Proceedings of executive committee at Springfield, 1858,..... 71

PAGE.

Proceedings of executive committee at Centralia, 1858,..... 77,91
Proceedings of executive committee at Decatur, 1858,..... 99
Proceedings of executive committee at Springfield, 1859,..... 100,103
Premium awarded on field crops, 1857, 43, 72
" " " 1858, 101
Pomological and Horticultural Society of Southern Illinois,..... 378
Proceedings and awards at the first fair held in Jonesboro,..... 380
Address of Dr. Warder on cultivation of strawberries,..... 383
Essays.
On the various breeds of sheep and their adaptation to the prairies, by A. B. McConnell, of Sangamon county, (premium)..... 456
On raising horses and mules in Illinois, by P. Warren, of Sangamon, (premium)..... 462
On the embellishment of a country home, by Miss Frances E. Willard, Wisconsin, (premium)..... 466
On the embellishment of a country home, by Mrs. R. B. Hatch, of Pike county, (premium) 472
On the cultivation of forest and ornamental trees on the prairies, by O. Ordway, of Marshal county, (premium)..... 477
On the cultivation of fruit trees on the prairies, by C. R. Overman, of McLean county, (premium)... 487
On the cultivation of orchards, by C. R. Overman, of McLean county, (premium)..... 495
On practical gardening in Illinois, by S. Francis, of Sangamon county, (premium)..... 500
The prairie fruit garden, by Samuel Jacob Wallace, of Hancock county, (premium)..... 512
On sorgho and imphee canes, by I. A. Hedges. of Ohio,..... 518
On the culture of rice in Illinois, by John Russell,..... 527
On domestic fowls—their rearing and management,..... 532
Agriculture—the Anglo Saxon, by J. Davis, of Macon county,..... 544
Agriculture, as connected with schools, colleges and other public institutions, by A. M. Gow, of Lee county, ... 556
Agricultural colleges in Illinois, by Miss L. A. Pratte, of Kankakee county, ... 564
Self-education, by J. C. Power, of Peoria county,..... 571
The district school house, by A. M. Gow, of Lee county,..... 579

Oaks of Illinois, by Dr. Brendel,..... 605

Plants: Additions to Mr. Lapham's list, by F. Brendel,..... 583

PAGE.

Plants occurring in the northern counties of Illinois, in addition to Mr. Lapham's list, by M. S. Bebb,..... 586

State Agricultural Society:
Biennial report to Gov. and Gen. Assembly,..... 9
Papers accompanying report,..... 15
Steam plows, exhibition at Decatur, 99
Sugar cane growers' convention,... 305
State Horticultural Society:
Meeting at Bloomington,..... 310
Discussions on various subjects, ... 312
Election of officers,..... 319
Discussions on various subjects:
Grafts—dibbling in,.. 321
Address by Arthur Bryant,..... 343
Address of M. L. Dunlap,..... 347
Evergreens and deciduous trees,... 322
Apples for cultivation—unanimously approved, ... 328
Grape culture,.... 328
Currants and culture,..... 329
Raspberries and culture,..... 331
Gooseberries and culture,..... 332
Blackberries and culture,..... 333
Papaws and persimmons,..... 334
Strawberries and culture,..... 335
Whortleberries and culture,..... 334
Pear culture, ... 335
Evergreens for protection of orchards, &c.,..... 341
Report on apples,..... 342
Apple culture in Illinois,..... 343
Fruit culture in Illinois, ... 347
Plowing and draining,..... 358
Soils of Kentucky and Illinois:
Statements of D. D. Owen, geologist of state of Kentucky,..... 403
Letter of Cor. Sec. of Ill. State Ag. Society to Dr. J. G. Norwood, State Geologist,..... 404
Circular of Dr. Norwood to farmers in Illinois,..... 405
Replies from farmers of Illinois... 407
From Rev. Dr. J. M. Peck,..... 407
" J. P. Robbins,..... 412
" J. Merritt, ... 413
" Thomas G. Chambers,..... 413
" M. L. Dunlap,..... 413
" J. Lockwood, Gilbert Shaw, J. C. Hillebert, Thomas Haze, Charles Briggs and J. C. Robinson,..... 417
" Samuel Parks,..... 417
" Benj. Lisenby,..... 419
" Tillman Lane,..... 419
" Walter Karr,..... 419
" Orin Wakefield,..... 420
" John D. Hutchin,..... 422
" Joseph Howard,..... 422
" Benj. Hull,..... 423
" Peter Krum,..... 424
" Samuel Spencer,..... 424
" John Russell,..... 424
" L. S. Norton,..... 425
" Richard Robley..... 426
" David Wooley,..... 427

PAGE.

Soils of Kentucky and Illinois:
From Stephen Spencer,..... 427
" W. D. Henderson,..... 428
" C. Thomas,..... 429
" J. McLean,..... 430
" James French,..... 430
" Wm. Strawn,..... 431
" Elmer Baldwin,..... 432
" Samuel Lander, ... 433
" Thomas Fell,..... 434
" W. F. Major,..... 434
" J. E. McClun,..... 435
" Mahlon Bishop,..... 435
" W. P. Withers,.. 436
" L. H. Thomas,..... 436
" Daniel Ground,..... 437
" Geo. Churchill,..... 438
" Theodore Perry,..... 438
" C. L. Montgomery,..... 439
" G. Blane,.. 439
" Josiah Leman,..... 440
" W. Ross, ... 441
" Thomas Bradbury,..... 441
" H. S. Ozburn, ... 442

PAGE.

Soils of Kentucky and Illinois:
From Wm. Durley,..... 443
" Henry I. Chase,..... 443
" John Parks,..... 444
" Wm. Addison,..... 444
" James Craig,..... 445
" Bryce Crawford,..... 446
" C. G. Taylor,..... 446
" J. J. McGredy,..... 448
" J. C. Crowder,..... 448
" D. K. Collerman, ... 449
" George M. Harrison,..... 450
" J. A. Ball,..... 450
" M. D. Gregory,..... 451
" John Thomas,..... 452
" Felix Scott,..... 453
" Joseph Griffin,..... 454
" Robert Lemon,..... 455
" Josiah Sawyer,..... 455
" G. W. Miner,..... 456

Treasurer's report for 1857 and 1858,... 14
Trees and Shrubs of Illinois, by Dr. Brendel, ... 588

ERRATA.—Page 15—Last line but one, should read, Lapham's list of Illinois *grasses*.
" 44—Committees' Reports for 1856, should be 1857.
" 244—S. I. Bergen, should be G. I. Bergen.
" 340—For "poor" stocks, read pear stocks.
" 440—Josiah Leman should be Josiah Lemon.
" 464—Under head of "mules," for "saleable," read serviceable.

THE HECKMAN BINDERY
N. MANCHESTER, INDIANA

71.2009.084.06327